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Life under COVID-19 for LGBT+ people in the UK: systematic review of UK research on the impact of COVID-19 on sexual and gender minority populations

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ABSTRACT

Objective To systematically review all published and unpublished evidence on the impact of the COVID-19 pandemic on the health and well-being of UK sexual and gender minority (LGBT+; lesbian, gay, bisexual, transgender, non-binary, intersex and queer) people.

Methods Any relevant studies with or without comparator were included, with outcomes of: COVID-19 incidence, hospitalisation rates, illness severity, death rates, other health and well-being. Six databases (platforms) were searched—CINAHL Plus (Ovid), Cochrane Central (Cochrane Library), Medline (Ovid), Embase (Ovid), Science Citation Index (Web of Science) and Scopus between 2019 and 2020 in December 2020, using synonyms for sexual and gender minorities and COVID-19 search terms. Data extraction and quality assessment (using the relevant Joanna Briggs checklist) were in duplicate with differences resolved through discussion. Results were tabulated and synthesis was through narrative description.

Results No published research was found on any outcomes. Eleven grey literature reports found to be of low quality were included, mostly conducted by small LGBT+ charities. Only four had heterosexual/cisgender comparators. Mental health and well-being, health behaviours, safety, social connectedness and access to routine healthcare all showed poorer or worse outcomes than comparators.

Conclusions Lack of research gives significant concern, given pre-existing health inequities. Social and structural factors may have contributed to poorer outcomes (mental health, well-being and access to healthcare). Paucity of evidence is driven by lack of routinely collected sexual orientation and gender identity data, possibly resulting from institutional homophobia/transphobia which needs to be addressed. Men are more at risk of serious illness from COVID-19 than women, so using data from trans women and men might have started to answer questions around whether higher rates were due to sex hormone or chromosomal effects. Routine data collection on sexual orientation and gender identity is required to examine the extent to which COVID-19 is widening pre-existing health inequalities.

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Strengths and limitations of this study

- This is the first systematic review collating all available relevant research (published and unpublished). Until now, no research had been published in peer-reviewed academic journals on the impact of the COVID-19 pandemic on the health and well-being of sexual and gender minority people in the UK, so the impact of COVID-19 on the LGBT+ (lesbian, gay, bisexual, transgender, non-binary, intersex and queer) community in the UK was largely unknown.
- Major strengths are the extensive searches conducted, consistent and verifiable systematic review methods, and the inclusion of grey literature reports.
- Lack of research is a severe limitation in that no evidence was found on COVID-19 incidence, hospitalisation rates, illness severity or death rates.
- The consistency of findings around mental health and well-being, health behaviours, safety, social connectedness and access to routine healthcare is a strength, in that they all tended to show poor outcomes, or worse outcomes from the LGBT+ populations compared with before the pandemic or compared with heterosexual/cisgender populations.
- Lastly, a strength is the demonstration that routine data collection on sexual orientation and gender identity is required to examine the extent to which COVID-19 is widening pre-existing health inequities.

BACKGROUND

It has become increasingly clear that COVID-19 infection has had a disproportionately negative impact on many who already face disadvantage and discrimination, particularly people who are deprived, from black and minority ethnic backgrounds, and older people.[1] Moreover, COVID-19 is being experienced as a syndemic among these populations, in that it interacts with, and exacerbates, existing health inequalities.[2] However, little has been available so far on the impact of the virus itself or on the results of the epidemic and social control of the population (lockdown and other restrictions) on people from the minority sexual orientation or gender identity (SOGI) communities despite pre-existing health inequities.[3]

In September 2020, the European Commission presented their first-ever European Union (EU) Strategy for lesbian, gay, bisexual, transgender, non-binary, intersex and queer (LGBT+) equality.[4] While progress in the EU and elsewhere has been made towards LGBT+ equality over the past years, discrimination against LGBT+ people persists, and the COVID-19 crisis has only exacerbated the situation, with a higher rate of violence and discrimination towards LGBT+ people reported.[5] In the UK, this societal discrimination has been acknowledged following a large survey by the UK government.[6] The ensuing UK government Action Plan stated that they were 'committed to tackling the burning injustices that LGBT people face'.[7]

However, there have been few academic publications so far on the impact of the COVID-19 virus on the health and well-being of people from the LGBT+ communities. What has been published internationally suggests several potential health and well-being impacts. It has been shown that people from sexual and gender minorities experience poorer mental health,[8 9] but this has been exacerbated by the COVID-19 virus and associated social control measures.[10–13]

There is evidence to suggest that COVID-19 disproportionately affects people with endocrine conditions, putting them at an increased risk of severe disease.[14] Female reproductive steroids may protect against more severe disease[15] and lesbians have lower reproductive rates than heterosexual women.[16] Sexual minority women possibly have higher levels of testosterone than heterosexual women,[17] and many transgender men and women are taking exogenous hormones. The oestrogens that transgender women take may reduce the severity of COVID-19 infection.[18] Some gay men have reported casual sex during the pandemic, which may increase the risk of COVID-19.[19 20] Men who have sex with men, and transgender women, have higher rates of HIV, which may exacerbate the effects of the COVID-19 virus.[21]

In addition, it has been demonstrated that the greater the level of minority stress on a person from the sexual minority community, the greater the negative impact on their mental health.[22] Minority stress may also adversely affect their physical health.[23] This is probably also true for trans people but there is less evidence on this.[24]

Given these issues, routine data collection around SOGI would seem warranted. This systematic review reports all research on the impact of the COVID-19 pandemic on UK LGBT+ people.

METHODS

Inclusion criteria

Eligibility was: (1) Population: sexual minority people (self-described by orientation identity, sexual behaviour or marriage/cohabitation status), and transgender and non-binary people, living in the UK in any setting; (2) Exposure: COVID-19 pandemic; (3) Comparator 1: heterosexual people or those self-describing as only having sex with the opposite sex or married or cohabiting with someone from the opposite sex; and cisgender people; Comparator 2: life before the pandemic: Comparator 3: no comparator; (4) Outcomes: any relevant health and well-being outcomes; (5) Study design: any primary qualitative or quantitative studies of any design. Studies could be peer-reviewed, published or grey literature. Studies were excluded if: the sexual orientation and/or gender identity were not clear; there was no total number investigated in the report; there were fewer than 50% UK participants; there were no outcomes of interest; or if they were opinions, editorials or case reports.

Search strategy, study selection and data extraction

Searches were conducted by one reviewer (CM) in November 2020 and checked by another (HJL). Search terms and appropriate synonyms (Medical Subject Headings terms and text words) were developed based on population and exposures. Six databases (platforms) were searched—CINAHL Plus (Ovid), Cochrane Central (Cochrane Library), Medline (Ovid), Embase (Ovid), Science Citation Index (Web of Science) and Scopus (Scopus platform). The same search terms were used for each database but adapted where necessary. All titles found were assessed for inclusion and abstracts read if available. A full table of search terms can be found in online supplemental table 1. Google searches used the terms COVID-19 and SOGI synonyms, and the first 100 hits were examined. Websites of UK LGBT+ charities were examined, as were reference lists of UK researchers in LGBT+ health and well-being research. The Office for National Statistics (ONS), and several health inequalities experts were contacted. Submissions to the UK Women and Equalities Select Committee Enquiry into COVID-19 and the impact on people with protected characteristics[25] were checked for primary research. If any titles and abstracts had relevant information or there was uncertainty, the full study was checked by two reviewers, with any disagreements resolved by discussion.

Standard forms were devised prior to data extraction and quality scoring, based on the aims of the systematic review. Data items included type of sample, number of participants in LGBT+ and comparator groups (if available), type of outcomes reported, any external funding, type of presentation, numerical results for each group under the general headings of incidence, hospitalisations, deaths, mental health, physical health, health behaviours, personal safety, social support, impact of the pandemic on being out and routine healthcare access. Information was extracted by one reviewer (CM) and checked by another (VJM). Staff from one study[26] were contacted about data discrepancies and they supplied corrected data.

Quality assessments

Studies were quality assessed (CM and VJM) using the Joanna Briggs Institute (JBI) checklist for cross-sectional surveys.[27] It was intended from the protocol to use Critical Appraisal Skills Programme (CASP) checklists,[28]

but all included studies were surveys and CASP has no survey checklist. The three external validity questions from CASP[24] were used in addition to the JBI checklist.[27] No funnel plot assessment of publication bias could be conducted due to lack of comparative numerical results.

Data analysis

Results for studies with the three types of comparators were tabulated separately. Where multiple SOGI subgroups were reported in the studies, these are presented separately. Numerical results (if given) were reported as percentages or means and SDs. Synthesis was by narrative description of results. Meta-analysis was not possible due to heterogeneity of study questions and lack of comparator populations.

Patient and public involvement

All authors of this paper are from, or allies with, the LGBT+ community. The first author discussed the idea of the systematic review with a number of LGBT+ activists and community workers, and there was unanimous consent that it was a good idea and would be very useful. A draft of the paper was peer reviewed by members of an LGBT+ charity based in the north east of England.

RESULTS

From 218 citations, 2 abstracts were selected for full-text examination, and no fully published papers were included. From internet searches and contacts with experts, 11 grey literature studies were found and included in the narrative synthesis (see online supplemental figure 1 for Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram and online supplemental table 2 for excluded studies with reasons for exclusion).

Study characteristics

The 11 studies were conducted in 2020[26 29–39] (see table 1).

All were grey literature reports, web pages with associated links to data or an unpublished manuscript intended for publication in a peer-reviewed journal. Nine were by charities and two were by pairs of academics, one with a small grant from the British Academy[33] and the other was unfunded.[34]

All studies were cross-sectional surveys conducted online, and all had quantitative data, nine also had qualitative components. All studies were UK based but there was limited geographical information provided, and no obvious participation from Wales, Scotland or Northern Ireland. Participants were recruited by a variety of methods, (advertising, word of mouth, social media), and all were internet surveys, one also included telephone contacts.[39] Ages of participants varied, from all aged under 25 years[29] to the majority aged over 55 years.[38] SOGI status for all studies was by self-report. Two studies reported results of heterosexual respondents[26 31 32] and two for cisgender respondents.[26 29] In all comparative studies, either the LGBT+ group or comparator group had fewer than 40 participants. One study framed survey questions in terms of changes since lockdown started[36] and one study gave numerical results for before and during lockdown.[26] The remaining studies gave results for LGBT+ people during the pandemic only.

All except one[34] of the studies were found to be of relatively low quality when assessed from an academic background, as these studies were written for a lay audience. Checklist results are presented in online supplemental table 3. Very few methods were given for all but one[34] of the reports—this manuscript gave in-depth methods for analysis of the collected data, including regression models. The two studies by academic groups[33 34] did have ethical approval, but it is not clear whether the other nine projects sought this. It was unclear if there were checks to ensure that the same person had not completed surveys more than once. External validity seemed reasonably good, with all studies finding similarly consistent outcomes.

Findings

Numerical results for studies with concurrent comparators are in table 2 and for historical comparators in table 3. Non-comparative study results are in tables 4 and 5 and online supplemental table 4.[34]

One small study[39] reported the proportion of respondents who had had COVID-19 up to July 2020—5 of 103 respondents. There was no other information on rates of infection or hospitalisations.

Three studies with concurrent controls[26 29 31 32] reported mental health outcomes (see table 2), with also domestic violence, homelessness and self-harm in one.[26] For two studies with heterosexual comparators, one[31 32] found more in the LGBT+ group experienced poor mental health compared with the population as a whole. The other[26] showed mixed results, with some poor outcomes experienced more often by LGB groups and some by heterosexual comparators. For example, more LGB respondents were at risk of homelessness, whereas more heterosexual respondents were self-harming. For two studies with cisgender comparison groups,[26 29] one found that all mental health outcomes (anxiety, depression, loneliness, self-harm) were worse for the trans respondents.[26] Regarding health behaviours, exercise was less in the trans group but fewer had problems with alcohol consumption.[26] More were at risk of homelessness.[26] Particularly worrying were the findings[29] which showed that more than double the percentages of trans young people with a variety of mental health difficulties compared with cisgender respondents. These included having mental health as a significant obstacle, feeling more lonely or isolated, and needing more support from a variety of service providers.

Both studies with historical comparators[26 35] reported worsening of all mental health and well-being outcomes during the COVID-19 pandemic (see table 3) for LGBT participants. There was worsening of anxiety, depression and self-harming in all groups in one study,[26] and

Table 1 General characteristics

Source organisation/ team (date)	Name of report	Type of sample	N=	Comparator group	Qualitative/ quantitative	Demographics LGBT+ groups	External funding	Form
Barnardo's London (Sept 2020)[29]	Listening to young Londoners: a digital listening project	Young people aged 13–25 living in London	~20	Cisgender respondents (N=~989, Total N=1009)	Quantitative only	45% cis male, 45% cis female, 2% trans male plus trans female plus non-binary, 8% PNTS 19% 13–15, 7% 16–18, 22% 19–21, 41% 22–25	NR	One grey report, phase 3 part used
Birmingham LGBT (Sept 2020)[30]	Impact of Covid-19 on Birmingham's LGBT communities	LGBTQ+ people who live, work or socialise in Birmingham	146	None	Both	24% lesbian, 53% gay, 16% bisexual, 9% queer, 5% unsure 38% female, 59% male, 3% other 9% trans male plus trans female plus non-binary, 1% PNTS 4% black, 4% mixed, 2% Asian 28% disabled 8% aged 18–24, 26% 25–34, 20% 35–44, 19% 45–54, 13% 55–64, 11% 65–74	Unclear if sponsored by Birmingham City Council or not	One grey report
Healthwatch Together (June/July 2020)[31 32]	The impact of the coronavirus pandemic on the LGBTQ community	LGBT+ population living in Cumbria or Lancashire	37	General population living in same area N=785 (of which 37 were LGB)	Both	35% lesbian, 16% gay, 32% bisexual, 17% other 35% male, 65% female 14% trans male plus trans female plus non-binary 5% BAME 8% disabled 32% aged 55+	NR	Two grey reports, one of LGBT+, one of general population
Houghton and Tasker (Aug 2020)[33]	LGBTQ UK COVID-19 Lockdown 18–35 Experiences	People aged 18–35	345	Heterosexual respondents (N=~6) (results not given)	Both	42% gay or lesbian, 27% bisexual, 12% pansexual, 10% other 44% male, 39% female, 12% non-binary, 5% other 21% transgender (gender not specified) 6% BAME 52% disabled or ongoing health problem 12% aged 18–20, ~30% 21–25, 30% 26–30, 30% 31–35	British Academy Special Research Grant	One grey report
Kneale and Becares (Aug 2020)[34]	Queerantine Survey	LGBT+ (83.6% from UK)	310	None	Quantitative only	Sexual orientation NR except 8% queer 23.5% trans male or trans female or non-binary 13.2% BAME 15.1% aged 18–24, 30.9% 25–34, 27.6% 35–44, 19.3% 45–54, 7.1% 55+	Unfunded	Manuscript for publication submission

Continued

Table 1 Continued

Source organisation/ team (date)	Name of report	Type of sample	N=	Comparator group	Qualitative/ quantitative	Demographics LGBT+ groups	External funding	Form
Lancashire LGBT (July 2020)[35]	Covid-19 lockdown survey report	LGBT+ population living in Lancashire	187	Changed since before lockdown	Both	16% lesbian, 43% gay, 26% bisexual, 3% heterosexual, 10% other including pansexual 56% men, 34% women, 10% other, 25% trans gender, 72% cis, 3% PNTS (gender not specified) 4% BAME 22% disabled 17% aged 55+	NR	One grey report
LGBT Foundation (May 2020)[36]	Hidden Figures	LGBT+ population	555	None	Both	26% lesbian, 42% gay, 13% bisexual, 1% heterosexual, 6% other, including as queer or pansexual 44% men, 41% women 10% non-binary, 4% other 23% transgender, 3% intersex (gender not specified) 8% BAME 27% disabled 24% aged 50+	NR	One grey report
LGBT South West, Intercom Trust (July 2020)[37]	The Impact of the Covid-19 Pandemic on our Communities	LGBT+ population living in the South West	407	None	Both	24% lesbian, 27% gay, 26% bisexual, 4% heterosexual, 15% other including pansexual 36% men, 49% women, 10% non-binary, 4% other 29% transgender (gender not specified) 3% BAME 24% disabled 15% aged 55+	NR	One grey report
Live Through This (Aug 2020)[38]	Cancer & Covid in our community	Patients with cancer, (50% from UK)	74	None	Both	65% lesbian or gay, 12% bisexual, 8% heterosexual, 15% other including pansexual 50% men, 42% women, 8% other 12% transgender (gender not specified) 5% BAME 32% disabled 62% aged 55+	NR	One grey report

Continued

Table 1 Continued

Source organisation/ team (date)	Name of report	Type of sample	N=	Comparator group	Qualitative/ quantitative	Demographics LGBT+ groups	External funding	Form
Opening Doors London (Nov 2020)[39]	Only Connect. The impact of Covid-19 on older LGBT+ people	Older LGBT+ population near London	103	None	Both	67% gay, 20% lesbian, 7% bisexual, 4% queer, 1% pansexual, 1% asexual Transgender—NR 10% BAME age range 51–90, mean 62 years	NR	One grey report
Outlife (June 2020)[26]	The LGBTQ+ Lockdown Wellbeing Report	LGBT+ population	Lesbian=443 Gay=531 Bisexual=630 Other=717	a. Hetero-sexual and cisgender respondents (N=33) b. Before lockdown	Both	19% lesbian, 23% gay, 27% bisexual, 1% heterosexual, 30% other including pansexual 32% men, 45% women, 17% non-binary, 6% other 32% transgender (gender not specified) 10% BAME 5% aged 55+	NR	Website plus downloads

BAME, black, Asian and minority ethnic; LGBT+, lesbian, gay, bisexual, transgender, non-binary, intersex and queer; NR, not reported; PNTS, prefer not to say.

also considerable increases in the proportions reporting loneliness. The other study[35] reported reductions in confidence, cheerfulness, feeling relaxed and good about themselves, feeling less close to others, thinking less clearly, dealing with problems less well for the whole group and reduction of well-being in trans people.

The eight non-comparative studies[30 33–39] focused on general mental health, physical health, health behaviours (including alcohol consumption and use of other substances), personal safety, connectedness, being out and access to routine healthcare (see table 4 for health results and table 5 for well-being results). All studies showed that a sizeable proportion of respondents were worried about these issues. A high proportion felt that their mental health had been affected since the start of the pandemic, particularly regarding feelings of anxiety, depression, suicidal thoughts and self-harming behaviour. One study found high levels of perceived stress, with the average score increasing for those who had experienced an instance of homophobic or transphobic harassment, compared with respondents who had not.[34] Similarly, the odds of exhibiting significant depressive symptomology increased threefold among those who had experienced harassment based on their gender or sexuality compared with those who had not.[34] Many felt lonely and isolated from their partner, family and the LGBT community that they normally accessed. Many had little or no support from the community around them. In one study, a relatively high proportion reported knowing someone who had died from COVID-19.[30] Access to healthcare was a major concern of many, particularly for trans people taking regular medication. Personal safety was another major concern, with a relatively high proportion not feeling safe where they were currently living, and three studies found relatively high proportions of people experiencing hate crime and domestic violence.[30 34 35] Also, a relatively high proportion felt that they could not be themselves during lockdown because they could not express their sexual orientation or gender identity.[30 33 35]

DISCUSSION

Statement of principal findings

There has been alarmingly little research into the impact of the COVID-19 pandemic on the UK LGBT+ population, despite known pre-existing health inequities[40] which is consistent with systematic review evidence regarding LGBT+ health inequalities in cancer, mental health and palliative care.[41] What little there is focuses on mental health and well-being impacts, health behaviours, safety, social connectedness and access to routine healthcare. The general trend was for poor outcomes, or for worse outcomes for LGBT+ populations compared with before COVID-19 pandemic or compared with heterosexual/cisgender populations, suggesting worsening health inequities. With so little data, it was not possible to discern if any of the LGBT+ populations were faring any worse than any other. All studies were small, mostly of relatively

Table 2 Results—surveys with concurrent control

Source (date)	Outcome	Lesbian	Gay	Bisexual	Heterosexual/ comparator	Trans male and trans female	Cis male and cis female comparator
Barnardo's (Sept 2020)	Mental health significant obstacle	NR	NR	NR	N/A	34.3%	Girls 14.3% Boys 13.2%
	Feel lonely or isolated all of the time	NR	NR	NR	N/A	39.2%	Girls 15.0% Boys 14.0%
	Support need to improve mental health —help from GPs/doctors	NR	NR	NR	N/A	36.2%	Girls 12.2% Boys 8.5%
	Support need to improve mental health —alcohol/drug use support	NR	NR	NR	N/A	21.9%	Girls 3.6% Boys 8.1%
Healthwatch Together (June/July 2020)	Suffered with mental health issues	65% (LGB)			32%	NR	NR
	Impact of COVID-19 on their mental health (score 0 (better)—100 (worse))	54 (LGB)			37	NR	NR
Outlife (June 2020)	Depression 'often', 'very often' or 'every day'	64.3%	50.9%	64.5%	54.2%	75.7%	56.2%
	Anxiety 'often', 'very often' or 'every day'	67.5%	56.6%	70.5%	50.0%	77.0%	62.2%
	Loneliness 'often', 'very often' or 'every day'	75.7%	58.8%	75.6%	75%	79.3%	68.3%
	Self-harm 'often', 'very often' or 'every day'	16.0%	6.6%	15.3%	20.8%	21.6%	11.3%
	Alcohol 'a few times a week' or 'every day'	22.8%	32.6%	20.5%	22.7%	20.2%	25.2%
	Exercise once per month or less	16.6%	21.0%	18.5%	26.1%	21.6%	18.4%
	Domestic violence	13.5%	8.9%	14.9%	13.0%	22.1%	12.1%
	At risk of homelessness	7.9%	9.7%	8.9%	5.3%	12.4%	7.7%

GPs, general practitioners; N/A, not applicable; NR, not reported.

low quality academically, and with limited numbers of outcomes that they could report, given the resources available. There was very little information on difference in rates in male and female trans and non-binary people, as most studies combined the trans sample, presumably because of low numbers. All comparative studies had fewer than 40 participants in one of the groups, limiting potential for finding statistically significant results.

There was no research found on the incidence, symptom severity, hospitalisations or death rates from COVID-19 in UK LGBT+ populations compared with heterosexual/cisgender populations. One small study[39] reported numbers who had had COVID-19 up to July 2020—5 of 103 respondents.

Strengths and weaknesses of the systematic review

This is the first systematic review examining UK-related COVID-19 research in LGBT+ populations. Currently, the PROSPERO database lists two other protocols, both unpublished and investigating mental health in LGBT+ communities only.

A major strength of this systematic review is the inclusion of grey literature. Extensive database searches found no peer-reviewed published UK research. A previous systematic review on LGBT health[42] also found several grey literature studies reporting valuable information not available in peer-reviewed academic literature, so including grey literature due to paucity of published research is not new. However, it is disappointing that standard data collection does not yet include SOGI, and its reporting in peer-reviewed, published health inequalities research. The current systematic review was conducted to the highest standards by experts in systematic reviewing and LGBT+ health, and is likely to have included all available relevant studies. Another major strength is the efforts made to find unpublished research by contacting experts, sifting UK Select Committee Public enquiry submissions[25] and checking specialist websites. A weakness is the difficulty in making meaningful sense of the included studies' results, given their small size, relatively low quality and lack of suitable comparators. They were mostly carried out by poorly funded charities, whose budgets dramatically reduced because of the pandemic,[43] and without these reports there would be no evidence at all. There is sometimes a potential bias in charity-sponsored research in

Table 3 Results—surveys with historical comparisons

Source (date)	Group	Outcome	Before COVID-19	With COVID-19
Lancashire LGBT (July 2020)	All	Feeling less cheerful	NR	68%
		Feeling less good about themselves	NR	55%
		Feeling less close to other people	NR	65%
		Thinking less clearly	NR	57%
		Feeling less confident	NR	51%
		Dealing with problems less well	NR	52%
		Feeling less relaxed	NR	62%
		Feeling less useful	NR	56%
		Feeling less optimistic about the future	NR	61%
	Trans men	Average % reduction in well-being	NR	67%
	Trans women	Average % reduction in well-being	NR	53%
Outlife (June 2020)	Gay	Depressed 'often', 'very often' or 'every day'	31.6%	50.9%
		Anxious 'often', 'very often' or 'every day'	45.4%	56.4%
		Loneliness 'often', 'very often' or 'every day'	34.5%	58.8%
		Self-harm 'often', 'very often' or 'every day'	4.8%	6.6%
	Lesbian	Depressed 'often', 'very often' or 'every day'	46.8%	64.3%
		Anxious 'often', 'very often' or 'every day'	64.3%	67.6%
		Loneliness 'often', 'very often' or 'every day'	42.6%	75.7%
		Self-harm 'often', 'very often' or 'every day'	13.4%	16.0%
	Bisexual	Depressed 'often', 'very often' or 'every day'	44.5%	64.5%
		Anxious 'often', 'very often' or 'every day'	61.9%	70.5%
		Loneliness 'often', 'very often' or 'every day'	42.6%	75.6%
		Self-harm 'often', 'very often' or 'every day'	12.5%	15.3%
	Transgender (gender not specified)	Depressed 'often', 'very often' or 'every day'	57.8%	75.7%
		Anxious 'often', 'very often' or 'every day'	69.4%	77.0%
		Loneliness 'often', 'very often' or 'every day'	44.0%	79.3%
		Self-harm 'often', 'very often' or 'every day'	16.6%	21.6%

LGBT, lesbian, gay, bisexual and transgender; NR, not reported.

that they can conduct research to find problems to solve, but this could be clarified by independent, peer-reviewed and published research, should it become available.

Meanings and implications of the systematic review

Given that an estimated 5% of the UK population is not heterosexual,[44] and that there are between 200 000 and 500 000 transgender people in the UK,[6] this lack of information is surprising and very worrying. Given the UK government's recent investment in LGBT+ health,[7 45] it is unclear why none of the large UK-based COVID-19 surveys included SOGI demographics. There has been a validated measure of sexual orientation available for over 10 years, and the UK Census 2021 measured both sexual orientation and gender identity, so these question sets are freely available. The answer perhaps could lie in more general reluctance to ask about these demographic characteristics.

Institutional homophobia is a relatively new concept, and has been defined[46] as:

> The collective failure of an organisation to provide an appropriate and professional service to people because of their sexuality. It can be detected in processes, attitudes and behaviour which amount to discrimination through unwitting prejudice, ignorance, thoughtlessness and stereotyping.

Official data collection that ignores SOGI as a category is a subtle form of institutional homophobia/transphobia. A major implication for policymakers is to address why SOGI questions have been omitted, and ascertain whether it is this due to institutional homophobia/transphobia. One of the included studies[34] made the following statement:

> Despite our best efforts, this study was not funded by the UKRI (ESRC) COVID-19 Research initiative. At time of writing £0 (out of £90 491 960) had been awarded by the UK Research Councils to projects studying the experiences of the LGBTQ+ community during the coronavirus pandemic.

Table 4 Results—non-comparative survey results for healthcare

Source (date)	General mental health	General physical health	Alcohol or other substance consumption	Routine healthcare access
Birmingham LGBT (Sept 2020)	65% felt their mental health had been affected since the start of the COVID-19 outbreak 60% reported feeling anxious, depressed or lonely 14% had suicidal or self-harming thoughts	50% of people stated diet less healthy 7% accessed a food bank 70% reported 'good' or 'excellent' sexual health 20% undertook no physical exercise	33% indicated increased use of recreational drugs 40% of those who drank reported increased alcohol consumption	12% were not able to access healthcare when they needed it 11% could not access medication they needed
Houghton and Tasker (Aug 2020)	70% felt very or extremely emotionally affected by the pandemic	NR	NR	NR
Kneale and Becares (Aug 2020)	(See separate table in online supplemental file)			
Lancashire LGBT (July 2020)	72% concerned about this	NR	21% concerned about this	33% not able to access routine healthcare (49% for trans people)
Live Through This (Aug 2020)	30% concerned about their mental health 58% report a negative impact on mental health	43% worried about their health	19% drinking alcohol more often	22% concerned about being able to access healthcare 19% concerned about their medication 16% concerned about their ability to contact their cancer team
LGBT Foundation (May 2020)	37% had decreased mental well-being as one of their top three concerns 42% would like to access support for their mental health	NR	18% are concerned that COVID-19 will lead to substance or alcohol misuse, or trigger relapse	16% had been unable to access healthcare for non-COVID-19-related issues 34% had a medical appointment cancelled 23% were unable to access medication
LGBT South West, Intercom Trust (July 2020)	52% had decreased mental well-being as the second highest concern 62% living with family reported decreased mental well-being	NR	29% of people were concerned the situation would lead to substance or alcohol misuse or trigger a relapse	13% were unable to access healthcare for non-COVID-19-related issues 33% had medical appointments cancelled 17% were unable to access medication (55% of trans people said they were unable to access, or had concerns about accessing hormone therapy medications)
Opening Doors London (Nov 2020)	>50% felt that lockdown impacted negatively on their psychological well-being 38% felt more unhappy or depressed since lockdown 18% felt much more depressed than usual	5% contracted coronavirus 23% felt their physical health was worse since the pandemic and lockdown	NR	NR

LGBT, lesbian, gay, bisexual and transgender; NR, not reported.

It needs to be established as to why has there been zero funding into the incidence, symptom severity, hospitalisations or death rates from COVID-19 in LGBT+ populations compared with heterosexual/cisgender populations, in spite of the £500 million UK Research and Innovation Economic and Social Research Council COVID-19 Research Initiative funding available.[47] It also needs to be established if institutional homophobia/transphobia is the cause of a lack of good-quality COVID-19 research in UK LGBT+ populations.

The evidence in this systematic review was collected mostly by LGBT+ sector charities. If it had not been for these, almost no information on the impact of COVID-19 would have been available, yet this sector is considerably underfunded,[48] and is facing a massive drop in income because of the COVID-19 pandemic.[49]

The only evidence on the proportion of LGBT+ people who have had COVID-19 was 5 in 103 respondents, as of July 2020.[39] By this time, there had been 302 301 confirmed COVID-19 cases in the UK,[50] from a

Table 5 Results—non-comparative survey results for well-being

Source (date)	Personal safety	Connecting with friends and social support	Outness
Birmingham LGBT (Sept 2020)	7% reported experiencing a hate crime since the start of the pandemic 5% of respondents indicated they had experienced domestic abuse from a current or ex-partner or family member since the start of lockdown	60% indicated they had no emotional support 25% reported knowing someone who had died from COVID-19 (7% had lost family member/s, 14% friend/s, 6% relative/s, 3% neighbour/s)	20% were worried about being their authentic self through lockdown
Houghton and Tasker (Aug 2020)	26% felt either very or extremely uncomfortable where they were living	28% in relationships felt very or extremely isolated from their partner(s) 59% felt very or extremely isolated from LGBTQ friends, compared with 46% felt very or extremely isolated from cis or heterosexual friends	19% felt very or completely suffocated due to not being able to express their LGBTQ* identity where they were currently living
Kneale and Becares (Aug 2020)	(See separate table in online supplemental file)		
Lancashire LGBT (July 2020)	11% concerned about this 8% experienced domestic violence 7% had hate incident	55% concerned about this 60% were not keeping in contact with people from LGBT groups	34% of did not feel able to be open about SOGI in their home/living environment
Live Through This (Aug 2020)	NR	55% worried about not seeing their friends or family 43% concerned about social isolation	9% are not out to anyone in their medical team
LGBT Foundation (May 2020)	8% do not feel safe where they are currently staying	64% said they would rather receive support during COVID-19 from an LGBT-specific organisation	NR
LGBT South West, Intercom Trust (July 2020)	9% did not feel safe where they were currently staying	63% listed inability to see friends and family as their top concern at this time 58% would prefer to receive support from an LGBT+-specific organisation	NR
Opening Doors London (Nov 2020)	NR	37% felt more lonely than usual 27% hardly ever or never had someone to talk to during lockdown 18% hardly ever received support from neighbours and local community Over 20% did not have smart phone, tablet, laptop or access to the internet	NR

LGBT+, lesbian, gay, bisexual, transgender, non-binary, intersex and queer; NR, not reported; SOGI, sexual orientation or gender identity.

population of approximately 54 million adults, giving a proportion of roughly 0.6% of the population having had a confirmed case. However, according to an ONS study, as of 9 August 2020, 6.2% (95% CI: 5.1% to 7.5%) people aged 16 years and over tested positive for antibodies to COVID-19,[51] but around 20% of these may have been asymptomatic,[52] so the estimate of 4.9%,[33] although from a small sample, may be fairly similar to the UK population proportion.

Unanswered questions and future research

It became apparent early in the pandemic that men were more at risk of serious illness and death from COVID-19 than women. It could have been very useful to find out if transgender women had higher rates than transgender men, or vice versa. This might have started to answer the questions around whether higher rates in men were due to sex hormone levels, Y chromosome effects or other reasons. If pockets of unexpectedly high transmission in certain areas are found, it could be useful to check whether this may have happened due to social sex in some gay men. The evidence suggests that social controls implemented because of the pandemic have exacerbated mental health difficulties, and therefore investigating whether there have been higher suicide rates in LGBT+ populations would be appropriate. However, foremost in the list of unanswered questions that must be addressed is why SOGI measures are not yet included in demographic datasets of all large cohort studies, when the question

sets are readily available. It needs to be established as to whether this is due to institutional homophobia/transphobia and how can this be reversed.

CONCLUSIONS

In this novel and rigorously conducted systematic review of the effects of the COVID-19 pandemic on the health and well-being of UK LGBT+ populations, no published research was found, and 11 small, grey literature reports of relatively low quality were included. Mental health and well-being, health behaviours, safety, social connectedness and access to routine healthcare tended to show poor outcomes, or worse outcomes from the LGBT+ populations compared with before the COVID-19 pandemic or compared with heterosexual/cisgender populations. No research was found on incidence, symptom severity, hospitalisations or death rates. Lack of research is a significant concern, especially when considering pre-existing health inequities between LGBT+ and heterosexual/cisgender populations. Paucity of evidence is driven by lack of routinely collected SOGI data possibly resulting from institutional homophobia/transphobia which needs to be addressed.

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