

Systematic review of the characteristics of LGBT homicides

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Abstract *The lesbian, gay, bisexual and transgender (LGBT) population has long been excluded, a reality produced by social marginalization, which is still present in today's society. This article aims to present a quantitative profile of LGBT homicides, focusing on the crimes, victims, and perpetrators. We conducted a systematic review of quantitative studies on LGBT homicide using the following databases: PubMed Central (Medline), Latin American and Caribbean Center for Health Sciences Information (LILACS), Embase (Elsevier), Scopus (Elsevier), the Virtual Health Library (BVS), and APA PsycNet. The searches were run using terms taken from the Medical Subject Headings (MESHs) and Health Sciences Descriptors (DeCS – BVS). Sixteen studies were included. Homicides tended to involve a single victim and single perpetrator and occur at the victim's residence or in public locations. Victims were more likely to be older than the perpetrator and offenders were usually unknown to the victim. Transgender people were the most affected group and most of the victims in this group were aged under 30 years. The findings of this review confirm that LGBT homicides may be considered "hate crimes" and that victims are generally killed with firearms or non-firearms, beaten to death or suffocated.*

Key words *Sexual and gender minorities, Homicide, Homophobia, Systematic review*

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Introduction

Gender identity and sexual orientation have been the subject of studies aimed at stimulating discussion to help tackle intolerance against the LGBT population. However, few international studies discuss lethal violence against LGBT people, more specifically homicide, which is a serious public health problem¹. Widely used in international literature, the term transgender is used for transvestites, transgender men and women, and others who do not fit into the gender binary, including non-binary and intersexual people².

While the concept of homophobia means *an arbitrary manifestation that consists of designating the other as contrary, inferior or abnormal*³ restricted to lesbians, gays and bisexuals, so-called “hate crimes” also represent manifestations of discrimination, fear or hatred based on gender identity known as transphobia. However, the neologism currently used by the international LGBT movement is “LGBTphobia”, encompassing homophobia, lesbophobia, biphobia, and transphobia, which by definition means that victims are chosen because they are or perceived to be LGBT^{4,5}.

In 2019, 55 countries did not protect against violence and discrimination on the basis of sexual orientation and gender identity. In two of these countries (Egypt and Iraq), being LGBT was a crime. Being LGBT was punishable by up to eight years imprisonment in 30 countries, by 10 years to life imprisonment in 26 countries, and by the death penalty in six countries (Saudi Arabia, Yemen, Iran, Nigeria, Somalia, and Sudan). It is worth highlighting that in several of these countries the laws are based on religious beliefs and underpinned by the civil code⁶.

Of the countries that recognize the rights of LGBT people, 123 permit same-sex relationships, 58 recognize and provide for same-sex marriage (27 countries) or civil union (31 countries), and 27 recognize homoparental families and permit adoption by same-sex couples. However, many countries do not have specific legislation on these questions and only 36 recognize transgender rights^{6,7}.

Transgender Europe (TGEU), a network of different organizations working to combat discrimination, reported 3,314 killings of transgender people in 74 countries between January 2008 and September 2019, 61% which were of sex workers. In the United States, 90% of murdered transgender people were black or Native Americans, while in France, Italy, Portugal, and Spain, 65% of the victims were migrants from Africa

and Latin America. A total of 331 killings were reported worldwide between October 2018 and September 2019, the majority of which occurred in Brazil (130), followed by Mexico (63) and the United States (30)⁸. It is important to highlight that there are no official statistics on murders of gays and lesbians provided by international social and health organizations.

At the time of data collection for this systematic review, international studies examining the prevalence and characteristics of LGBT homicides were scarce, limiting their utility and generalizability. This is partially due to the underreporting of cases because of a general lack of evidence of homophobia in homicide cases. This, together with the fact that the identity of the perpetrator is often unknown or the victim is not necessarily recognized as being LGBT, makes it difficult to prove homophobia in these crimes^{9,10}. In addition, penal systems around the world are not yet prepared to identify, investigate and judge anti-LGBT homicide^{6,8,11}.

This aim of this study was to conduct a systematic review of the literature on LGBT homicides and present a quantitative profile of the crimes, victims and perpetrators. In doing so, it seeks to raise the visibility of anti-LGBT homicide, contribute to the debate on this issue in the field of public health, and raise awareness of the needs of this group in order to fill gaps in public policies designed to protect LGBT people, who, with their vulnerable bodies and lives, continue to be exposed to unbearable and inhuman vulnerability¹², even in countries where sexual and gender dissidence is not criminalized¹³.

Methods

This systematic review was undertaken in accordance with the protocol registered in the International Prospective Register of Systematic Reviews (PROSPERO) on 22/12/2016 and updated on 27/07/2020 (registration number CRD42016053977). The protocol is available at https://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42016053977. The study stages and writing of this article followed the recommendations of the PRISMA Statement¹⁴.

We used the qualitative PEO (patient, exposure, outcome) framework adapted for quantitative studies to select the research evidence^{15,16}, where “P” was the world LGBT population, “E” was being a LGBT individual, and “O” was “death by homicide”.

We included only epidemiological studies with quantitative descriptive observational designs (cross-sectional and ecological studies) describing LGBT homicide, regardless of whether or not the crimes were motivated by homophobia. We selected articles and other scientific literature, including gray literature (non-conventional and commercial literature that has not gone through peer review) without any date of publication or language restrictions.

The first exclusion criterion was LGBT suicide, as the study topic was limited to LGBT homicide. The second criterion was studies addressing a specific age group (for example, young people, adults and older people), since these studies only document homicides in a specific segment of the population. The third exclusion criterion was exclusively qualitative studies, since our objective was to present a quantitative profile of LGBT homicide.

The literature search was undertaken using the following databases: PubMed Central (Medline), Latin American and Caribbean Center for Health Sciences Information (LILACS), Embase (Elsevier), Scopus (Elsevier), the Virtual Health Library (BVS), and APA PsycNET. The last update search was run on June 30, 2019.

The search strategy was developed with the help of a specialist librarian (MFMM). A comprehensive search was performed using the following terms in English, Portuguese and Spanish taken from the Medical Subject Headings (MESHs) and Health Sciences Descriptors (DeCS – BVS)¹⁷: “homophobia”, “sexism”, “bisexuality”, “homosexuality”, “gay”, “lesbian”, “LGBT”, “queer”, “transgender persons”, “transsexualism”, “transvestism”, “crime”, “criminology”, “homicide”, “murder”, and “victims”. It is important to mention that DeCS – BVS does not include “transphobia” and therefore this term is encompassed by the other terms. Due to the size of the database archives, the searchers were limited to type of publication (articles, conference proceedings, short communications, reports, dissertations, and theses). Searches were also undertaken of the gray literature¹⁸ using the Brazilian Digital Library of Theses and Dissertations (BDTD), Google Scholar (International), OpenGrey (Europe), and the National Technical Information Service (United States). We also searched the cross-references of the selected publications to identify new relevant publications.

The identified publications (including those found in the gray literature and cross-reference searches) were inputted into Zotero 5.0.88 after

removing duplicates and sent to the first two authors (Set 1) for title/abstract screening using “yes”/“no” answers. Disagreements over the inclusion of publications were decided by the fourth author. The full texts of the selected publications (Set 2) were assessed for eligibility by the first two authors using the above exclusion criteria. Disagreements over the inclusion of publications were decided by the fourth author. The included publications (Set 3) were examined by the first two authors, who extracted the following information: title, authors, year of publication, study location, study period, study sample or population size, victims’ gender identity or sexual orientation, data sources, and main findings. This information was reviewed by the third and fourth authors.

Study quality was assessed using the Guidelines for Critically Appraising Studies of Prevalence or Incidence of a Health Problem (the Loney criteria)¹⁹. The guidelines consist of eight questions designed to evaluate study adequacy and quality considering the validity of study methods and results interpretation and applicability. The assessment was undertaken independently by the first two authors. Overall agreement between the reviewers was 87.5%. Disagreements were resolved by consensus with the third and fourth perpetrators.

We extracted the homicide data (means and percentages) from the publications, weighting the means according to sample size, where the larger the sample the greater the weight of the results.

Results

The searches returned 702 records: 650 from the systematic searches (SS) of the electronic databases and 52 from the searches of other sources (gray literature - GL). After the duplicates were removed, 408 records remained (356 from the electronic databases and 52 from the gray literature). A total of 374 studies were excluded after screening, resulting in 34 publications. Eighteen of these publications were excluded after assessment for eligibility, resulting in 16 studies included in the final review. The publications were excluded for the following reasons: they adopted a purely qualitative design (discussions of/reflections upon the topic); they were not scientific (newspaper or electronic magazines articles); they were reports that had already been published as scientific articles; they focused on a spe-

cific victim/perpetrator age group; they focused on crimes committed by intimate partners and non-lethal crimes. The study selection process is detailed in Figure 1.

The main results of the selected studies are shown in Table 1.

Ten of the studies described the characteristics of the crimes, victims and perpetrators^{9,10,20-27}, five addressed the characteristics of the crimes and the victims^{11,28-31}, and one focused specifically on the victims³². Fourteen of the studies were time-series ecological studies^{9,10,20-31} and two were cross-sectional^{11,32}. The studies were conducted in six different countries across different continents with different cultures and contextual factors: the United States (six)^{9,10,22,23,28,32}, Brazil (three)^{11,25,29}, Mexico (three)^{21,30,31}, Australia (two)^{24,27}, Italy (one)²⁶, and England/Wales (one)²⁰.

The studies reported 2,921 LGBT homicides, with numbers in individual studies ranging from 20²⁶ to 945⁹. It is important to highlight, however, that few studies reported cases of homicides with clear evidence of homophobia. Study periods varied between one^{11,32} and 30 years²².

Although the search did not employ language restrictions, the studies were written in only three different languages: English (11)^{9,10,20,22-24,26-28,30,32}, Portuguese (three)^{11,25,29}, and Spanish (two)^{21,31}.

The studies employed the following statistical methods: descriptive statistics (16)^{9-11,20-32}, logistic regression (three)^{9,10,23}, Fisher's exact test (two)^{22,28}, chi-squared test (one)⁹, and the Mann-Whitney test (one)²⁸.

The data presented in the publications were collected by the researchers, some of whom attempted to identify evidence of homophobia in the data sources. This evidence was obtained from government reports and non-governmental organizations or collected individually by activists, while the general homicide data were obtained mainly from newspaper articles, police reports, death records and webpage searches. The main characteristics of the crimes, victims, and perpetrators are outlined below.

Crimes

The most common places of occurrence were the victim's residence and public locations. The percentage of homicides committed in the victim's residence varied between 34.3%⁹ and 64.0%²⁰, averaging 40.5% across 10 studies^{9,20-27,31}, while the percentage of murders in public locations varied between 16.0%²⁰ and 49.0%²¹, aver-

aging 29.3% across eight studies^{9,20,21,24-27,31}.

With regard to the relationship between the victims and possible perpetrators, the percentage of homicides committed by friends or people known to the victim varied between 24.8%⁹ and 65.3%¹⁰, averaging 32.0% across eight studies^{9-11,21,23,24,26,27}.

The most common causes of death were stabbing, beating and shooting, although other methods such as suffocation, strangling, beating with wooden sticks, stoning, and burning to death were also mentioned. The most frequently used non-firearm for stabbings was a kitchen knife, with percentages varying between 28.7%¹⁰ and 72.7%²³, averaging 44.2% across 12 studies^{9,10,20,21,23,25-31}. The percentage of deaths by beating varied between 13.0%²⁵ and 44.6%²⁷, averaging 29.5% across 10 studies^{9,10,20,21,25-28,30,31}, while the percentage of homicides by firearms varied between 8.1%²⁷ and 68.0%²⁹, averaging 25.1% across nine studies^{10,21,22,25-29,31}.

The findings show that crimes tended to involve a single victim and single offender. The percentage of crimes with a single victim varied between 45.5%²⁴ and 93.4%²², averaging 85.2% across five studies^{10,22-24,27}, while the percentage of crimes with a single offender varied between 45.5%²⁴ and 92.0%²⁶, averaging 72.4% across seven studies^{9,10,22-24,26,27}.

Two studies reported cases in which perpetrators confessed to homicide, accounting for 26.4%²³ and 50.4%²² of the crimes, respectively (average of 38.4%^{22,23}).

Between 17.9%⁹ and 65.0%²⁰ of the victims in three studies had consumed alcohol and drugs (average of 43.7%^{9,20,24}), compared to 14.9%²³ and 72.0%²⁰ of perpetrators also in three studies (average of 34.9%^{9,20,23}).

Victims

The predominant sex assigned at birth was male, varying between 80.0%⁹ and 100.0%²⁶ across eight studies (average of 88.3%^{9,10,21-23,26,30,31}).

The victims were mostly aged over 35 years, with the percentage of victims in this age group varying between 55.0%²¹ and 80.5%²⁰. An average of 64.8% of the victims were aged over 35 years at the time of the homicide across six studies^{11,20,21,25,27,30}. In two studies where the victims were transgender people^{29,32}, the victims were aged under 35 years. The average age of the victims was 39.6 years across five studies^{20,21,24,26,28}.

Gays and trans women were the most af-

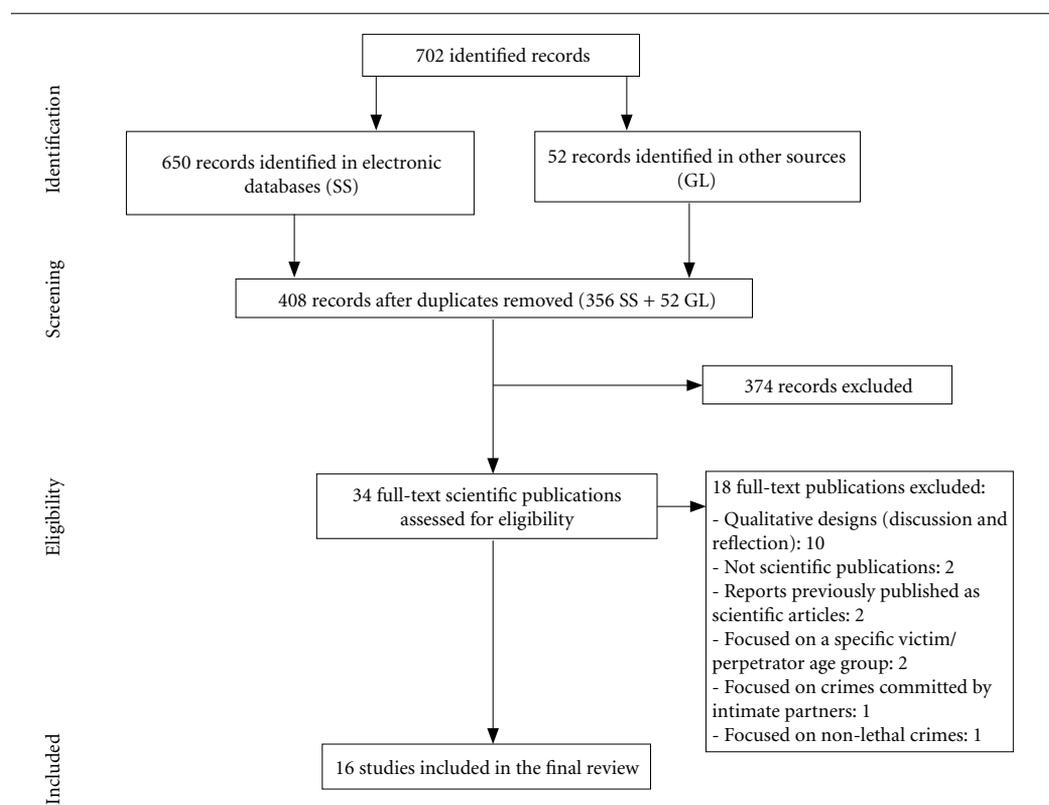


Figure 1. Study selection flow diagram.

Source: Prepared by the authors, in accordance with the recommendations of the PRIMA document.

affected by this type of hate crime. Gay and bisexual men accounted for between 51.0%¹¹ and 74.4%¹⁰ of victims across four studies (average of 59.0%)^{10,11,20,25}, while transgender people accounted for between 13.2%¹⁰ and 100.0%³² of victims across five studies (average of 35.7%)^{10,11,25,26,32}. Lesbians accounted for between 3.0%¹¹ and 8.0%²⁵ of victims in three studies (average of 3.5%)^{10,11,25}. Heterosexuals mistaken for being LGBT were also victims of homicides possibly motivated by homophobia, accounting for between 4.0%¹¹ and 8.0%¹⁰ of victims in three studies (average of 4.8%)^{10,11,22}.

Only one study mentioned the marital status of victims, reporting that 64.5%¹¹ were single at the time of the murder.

The victims were predominantly white, with this group accounting for between 23.9%³² and 93.1%²⁴ of victims across seven studies (average of 64.4%)^{9,11,22-24,29,32}. Blacks, including “Latinos”^{22,32} and “brown people”²⁹, were the second

most-affected group, accounting for between 37.0%¹⁰ and 62.0%³² of victims in three studies (average of 40.5%)^{22,29,32}.

The most common occupations among victims were businessperson, manager, official, priest, and teacher, with the percentage of victims in this group of occupations varying between 23.9%¹¹ and 71.2%²⁷ in four studies (average of 39.8%)^{11,20,21,27}.

Perpetrators

The perpetrators were predominantly male, with men accounting for between 93.2%²⁴ and 100.0%^{10,26} of the crimes across four studies (average of 97.7%)^{10,24,26,27}.

The perpetrators were mostly aged under 30 years, with the percentage of victims in this age group varying between 65.8%³¹ and 93.0%²¹. An average of 74.9% of perpetrators were aged under 30 years across six studies^{20,21,24,25,27,31}. The

Table 1. Main findings of the studies included in the systematic review.

Study	Location	Study Period	Crimes	Victims	Perpetrators
(Bartlett, 2007)*	England and Wales	1976 to 2001	- 64% of the crimes occurred in the victim's residence and 16% in public locations - 31% of the crimes involved beatings; 30% involved non-firearms; and 30% involved strangling, suffocation or drowning	- 54% were homosexual or bisexual. - 80.5% were aged over 30; average age was 43 years - 65% had consumed alcohol - 53.2% were businesspersons or managers; 45.4% were on benefits, unemployed, or pensioners	- 72% had consumed alcohol - 79.5% were aged under 30 years; average age was 23 years - 78% were unemployed
(Bell & Perry, 2015)	Florida, United States	1982 to 1992	- 29.9% of the crimes involved non-firearms; 42.0% beatings and/or strangling; and 22.4% firearms	- Average age was 43.7 years	
(Boivin, 2016)	Mexico	1995 to 2013	- 49% of the crimes occurred in public locations or hotels; 35% in the victim's residence; 18% in a house of prostitution - 92% of the homosexual and bisexual victims were found in their residences, while transgender victims were found in public spaces (69%) and hotels (14%) - the victims found in public spaces (38%) and hotels (33%) were frequently tortured - 33% of the crimes involved stabbing; 27% beating and torture; 25% suffocation, strangling or hanging; and 13% firearms - 40% of the victims were killed by friends or acquaintances. - 39% of the victims were found naked; 29% of the victims had been tortured and 26% were found tied up - 46% of the victims found in public spaces and hotels were naked 7% of the victims were raped, suffered genital mutilation or assaulted with an object inserted into the rectum	- 97% were male - 55% were aged over 34 years; average age was 35 years - 39% were officials, priests, art and culture professionals; 15% were stylists and small businesspersons; and 14% were sex workers - More than twice as many transgender people as homosexuals or bisexuals were murdered in the 25 to 34-year age group	- 50% were aged between 25 and 29 years and 43% between 18 and 24 years - 49% were soldiers or ex-soldiers; 33% were hustlers; 17% were unemployed or students; and 11% were waiters, kitchen helpers or similar

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average age of perpetrators was 24.1 years across seven studies^{9,10,20,22-24,26}.

The perpetrators were predominantly white (between 53.3%⁹ and 93.2%²⁴, averaging 59.1% across five studies^{9,10,22-24}). One study reported that 18.1% of perpetrators were black¹⁰.

The most common occupations among perpetrators were student, self-employed or unemployed. The percentage of perpetrators in this group of occupations varied between 28.0%²¹

and 90.5%²⁷, averaging 56.0% across five studies^{20,21,24,25,27}. It is worth mentioning that two studies^{21,27} reported that sex workers (hustlers) were possible perpetrators, accounting for between 9.5%²⁷ and 33.0%²¹ of homicides (average of 25.2%).

The quality assessment based on the Loney criteria revealed that 14 studies (85.7%) showed positive overall quality^{9,10,20-31} and two studies (14.3%) showed neutral overall quality^{11,32}. De-

Table 1. Main findings of the studies included in the systematic review.

Study	Location	Study Period	Crimes	Victims	Perpetrators
(Carrara & Vianna, 2006)	Rio de Janeiro, Brazil	1970 to 1990	<ul style="list-style-type: none"> - 60.7% of the homosexuals and bisexuals murdered in their residences were killed using non-firearms, suffocation or blunt objects and most of the crimes were profit-oriented - 68% of the trans people murdered in public locations were killed using firearms; almost all the murders were executions 	<ul style="list-style-type: none"> - Average age was under 35 years. - 40% were black or brown 	-
(Granados & Delgado, 2008)	Mexico	1995 to 2000	<ul style="list-style-type: none"> - 46.7% of the crimes involved non-firearms and 34.2% involved beatings. - 17.4% of victims were found naked and 11.4% were found tied up 	<ul style="list-style-type: none"> - 95.1% were male. - 61.6% were aged over 30 years 	
(Gruenewald, 2012)**	United States	1990 to 2008	<ul style="list-style-type: none"> - 28.7% of the crimes involved non-firearms; 27.0% involved firearms; 22.1% involved bodily weapons; and 16.4% involved blunt objects - 65.3% of the victims were killed by friends or acquaintances - 42.7% of the crimes had multiple perpetrators - 7.2% of the crimes had multiple victims 	<ul style="list-style-type: none"> - 94.2% were male - 74.4% were homosexual/bisexual; 13.3% were transgender; 8.8% were heterosexual; 4.4% were lesbians 	<ul style="list-style-type: none"> - 100.0% were male - 73.4% were white and 18.1% were black - Average age was 25.1 years
(Gruenewald & Kelley, 2014)**	United States	1990 to 2010	<ul style="list-style-type: none"> - 41.2% of the homicides occurred in the victim's residence - 72.7% of the crimes involved alternative weapons to firearms. - 42.0% of the crimes had multiple perpetrators and 93.4% had only a single victim - 50.4% of the perpetrators admitted choosing the victims because of their sexual orientation or gender identity - 28.1% of the crimes were planned acts of violence against the LGBT community - 15.7% of the offenders revealed their crimes to others - 32.2% of the crimes were profit-related - 8.3% of the perpetrators manipulated or mutilated the victim's body 	<ul style="list-style-type: none"> - 95.0% were male - 57% were white; 19% were black; and 17% were Hispanic - 4.1% were heterosexual (mistaken identity) 	<ul style="list-style-type: none"> - 69.7% were white - Average age was 25 years - 69.3% knew their victims
(Kelley, 2013)**	United States	1990 to 2010	<ul style="list-style-type: none"> - 42.0% of the crimes had multiple perpetrators - 41.2% of the crimes occurred in the victim's residence - 32.2% of the crimes were profit-related - 72.7% of the crimes involved non-firearms - 26.4% of the perpetrators stated that the crime was motivated by homophobia - 59.3% of the victims were killed by friends or acquaintances - 50.4% of the perpetrators admitted choosing the victims because of their sexual orientation or gender identity 	<ul style="list-style-type: none"> - 95.0% were male - 56.5% were white 	<ul style="list-style-type: none"> - Average age was 24.9 years - 69.7% were white - 14.9% had consumed drugs or alcohol

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spite this, the two studies, which are technical reports, presented important results for this sys-

tematic review. The results of the assessment are shown in Chart 1.

Table 1. Main findings of the studies included in the systematic review.

Study	Location	Study Period	Crimes	Victims	Perpetrators
(Mercado Mondragon, 2009)	Mexico	1999 to 2006	- 50.4% of the crimes occurred in the victim's residence and 23.4% in public locations - 33.6% of the crimes involved stabbings; 19.0% involved beatings; 13.0% involved strangling; and 6.9% involved firearms	- 96.1% were male - 65.8% were aged over 30 years	
(Mott & Michels, 2019)***	Brazil	2018	- 47% of the victims were killed by friends or acquaintances - 27% of the perpetrators were identified	- 51% were homosexual or bisexual and 42% were trans people - 64.5% were single - 63% were aged over 30 years - 64% were white - 23.9% were teachers and 20.9% students	
(Mouzos & Thompson, 2000)	New South Wales, Australia	1989 to 1999	- 53.6% of the crimes occurred at the weekend - 62.1% of the crimes occurred between 6 pm and 6 am - 62.1% of the crimes occurred in the victim's residence and 31.0% in public locations - 54.5% of the crimes had a single victim and multiple offenders and 45.5% had a single victim and single offender - 90.9% of the perpetrators were younger than the victim - 70% of the crimes involved savage beatings, repeated stabbings, mutilation and/or dismemberment - 52.3% of the victims were killed by a friend or acquaintance	- Average age was 43 years - 48.3% consumed alcohol - 93.1% were white	- 93.2% were male - 68.1% were aged between 15 and 24 years; average age was 20 years - 93.2% were white - 77.3% were single - 81.8% did not work
(Oliveira, 2012)***	Sergipe, Brazil	1980 to 2010	- 43% of the crimes occurred in public locations and 42% in the victim's residence - 33% of the crimes involved firearms; 30% involved non-firearms; 13% involved strangling; involved 11% beatings with wooden sticks, and 9% involved stoning - 64% of the perpetrators were identified, with 39% being convicted of the crime	- 73% were homosexual or bisexual; 19% were trans people; and 8% were lesbians - 68.5% of the victims were aged 30 years and over - 21% had completed higher education	- 69% were aged under 24 years - 94% were single - 76% had only completed primary education - 45% were students, unemployed or self-employed

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Discussion

This systematic review provides important information on the characteristics of LGBT homicides around the world, contributing to raise visibility of these crimes. It is important to stress that it is difficult to prove that a homicide was motivated by homophobia since, in the majority of cases,

the identity of the offender is unknown and it is often not clear whether the victim identified as LGBT. It is also important to highlight that this study did not aim to contextualize and discuss the social, political and economic dimensions of LGBT homicide. However, it is interesting to note that these crimes appear to be more prevalent among transgender people in the countries in the

Table 1. Main findings of the studies included in the systematic review.

Study	Location	Study Period	Crimes	Victims	Perpetrators
(Prunas <i>et al.</i> , 2015)	Milan, Italy	1993 to 2012	<ul style="list-style-type: none"> - 50% of the crimes occurred in the victim's residence and 45% in public locations - 38.5% of the victims were killed by friends or acquaintances - 40.0% of the crimes involved non-firearms; 42.0% involved beating and/or strangling; and 15.0% involved firearms - 92.0% of the crimes had a single victim and single perpetrator 	<ul style="list-style-type: none"> - 100.0% of the victims were male (sex assigned at birth) - Average age was 33.4 years - 100.0% were trans people 	<ul style="list-style-type: none"> - Average age was 31 years
(Stacey, 2011)	United States	2000 to 2005	<ul style="list-style-type: none"> - 34.3% of the crimes occurred in the victim's residence and 26.9% in public locations - 13.4% of the crimes had multiple victims and 18.0% had multiple offenders. - 24.8% of the victims were killed by friends or acquaintances - 17.4% of the victims had consumed alcohol or drugs - 49% of the crimes involved non-firearms and 33.2% involved beatings. - 57.5% of the crimes occurred at night 	<ul style="list-style-type: none"> - 80% were male - 66.9% were white 	<ul style="list-style-type: none"> - 53.3% were white - Average age was 20 years
(Tomsen, 2002)*	New South Wales, Australia	1989 to 1999	<ul style="list-style-type: none"> - 43.2% of the crimes occurred in the victim's residence and 40.5% in public locations - 44.6% of the crimes involved beatings; 29.7% involved stabbings; and 8.1% involved firearms - 37.8% of the perpetrators were unknown to the victim and 34.8% were friends or acquaintances - 54.4% of the crimes had multiple offenders - 56.8% of the victims were at least 10 years older than the offenders 	<ul style="list-style-type: none"> - 79.7% were aged over 30 years - 71.2% were businesspersons or managers; 28.8% were retired or did not work 	<ul style="list-style-type: none"> - 95.6% were male - 86.9% were aged under 30 years - 40.7% were unemployed; 33.2% were janitors; 16.6% were students; and 9.5% were hustlers
(Waters <i>et al.</i> , 2016)	United States	2015	-	<ul style="list-style-type: none"> - 67% were trans people - 79% were aged under 35 years - 62% were black or Latinos 	

Studies with the same population using different methodologies and study periods and different and/or complementary results. ** Studies with the same population using different methodologies and study periods and different and/or complementary results. *** Studies with the same population using different methodologies and study periods and different and/or complementary results.

Source: Authors' elaboration.

Americas (Brazil, United States and Mexico) than in the other countries, suggesting that the culture of hate toward this group is more widespread in these countries^{10,11,25,26,32}. No differences in the dynamics of gay homicide were found between the countries^{10,11,20,25}.

The findings show that victims are more likely to be brutally beaten, tortured or repeat-

edly stabbed to death with a knife or some other sharp instrument^{9,10,20-22,24,25,27,29-31}, reinforcing the hypothesis that these crimes are associated with exceptional cruelty, where more violence than is necessary to cause death is used, indicating hate crime^{9,10,22,23}. The crimes generally involve a single victim and a single offender^{10,23,24} and the victim is more likely to be older than the perpetrator,

particularly in cases involving gays^{20,21,24,25,27}. Moreover, the offender is more likely to be unknown to the victim^{9-11,21,23,24,26,27}.

The data presented show that both victims and perpetrators are more likely to be white^{9-11,22} and single^{11,24,25}, while victims are more likely to have a steady job and a higher level of education and socioeconomic status than perpetrators^{20,21,24,25,27}. This may explain the prominence of profit-oriented crimes, where the offender seeks material or financial gain^{22,23,29}. Gay victims are more likely to be murdered in their residence, which is to be expected as this group cherish their privacy in intimate encounters^{9,20-25,31}. In contrast, transgender people are more likely to be murdered in public locations because they are easily recognizable as LGBT and often work on the streets^{21,22} as sex workers. The premature death of transgender people is a key issue, with members of this group being twice as likely to be murdered than gays²¹. Furthermore, more than 80% of transgender victims were aged under 30 years³³, revealing their precarious lives marked by differ-

ent types of vulnerability, particularly the lack of protection provide by the government, even in countries where sexual and gender dissidence is not criminalized.

Offenders are more likely to be male²⁴ and tend to have a “macho mindset”, which treats the LGBT population and women as “contemptible minorities”^{3,29,34}. This fact may explain, to a certain extent, the stance adopted by the aggressors, probably to humiliate the victims. It is important to highlight that the consumption of drugs and alcohol by victims and perpetrators may be a precipitating factor for the frequency of these crimes and their brutal nature^{9,20,23}.

Study strengths includes the originality of the review, especially considering the lack of in-depth, complete and transparent systematic reviews on this topic, and the collection of exhaustive data from across a diverse range of countries and decades, thus improving the investigation’s external validity. Limitations include the scarcity of quantitative studies, loss of data due to the fact that some studies provided little

Chart 1. Quality assessment of the studies included in the systematic review based on the Loney criteria.

Studies	Questions								Overall quality
	1	2	3	4	5	6	7	8	
(Bartlett, 2007)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Bell & Perry, 2015)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Boivin, 2016)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Carrara & Vianna, 2006)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Granados & Delgado, 2008)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Gruenewald & Kelley, 2014)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Gruenewald, 2012)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Kelley, 2013)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Mercado Mondragon, 2009)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Mott & Michels, 2019)	Y	Y	Y	NA	NA	Y	N	N	Neutral
(Mouzos & Thompson, 2000)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Oliveira, 2012)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Prunas <i>et al.</i> , 2015)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Stacey, 2011)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Tomsen, 2002)	Y	Y	Y	NA	NA	Y	Y	Y	Positive
(Waters <i>et al.</i> , 2016)	Y	Y	Y	NA	NA	Y	N	N	Neutral

QUESTIONS: 1. Are the study design and sampling method appropriate for the research question? 2. Is the sampling frame appropriate? 3. Is the sample size adequate? 4. Are objective, suitable and standard criteria used for measurement of the health outcome? 5. Is the health outcome measured in an unbiased fashion? 6. Is the response rate adequate? Are the refusers described? 7. Are the estimates of prevalence or incidence given with confidence intervals and in detail by subgroup, if appropriate? 8. Are the study subjects and the setting described in detail and can they be generalized for other similar situations?

Y: Yes; N: No; NA: Not applicable.

Source: Authors elaboration.

detail as to results, and lack of standardization of studies. However, these limitations did not negatively affect the scope of the relevant information obtained by this review. To address these limitations, we performed an exhaustive search of the electronic databases and gray literature, enabling us to obtain the studies included in this review.

Final considerations

The fact that victims were generally older than offenders and that the latter are normally unknown to the victim were the main characteristics of LGBT homicides. Transgender people are more affected than gays, victims among this group are younger, and homicides against trans individuals tend to occur in public locations. Homicides against the LGBT population may be considered hate crimes, as the victims suffer exceptional cruelty and more violence than necessary is used to cause death.

Futures research is needed to compare and confirm the findings of this study, including systematic reviews on non-lethal crime, suicide and LGBT homicide focusing on qualitative studies, in order to contribute to implementing a more

effective response to violence against this group and the discourse of hate that is so present in today's society.

We believe that our findings provide important new insights into the characteristics of LGBT homicide at an international level, which have been little-studied up until now. It is important to mention that the lack of research in this area is mainly due to gaps in records of these crimes in the majority of countries, including those encompassed by this systematic review.

Due to the lack of official records of violence against the LGBT population, it is not possible to say which country most kills members of this group. Although the international data reveal the cruelty and inhuman nature of "LGBTphobic violence", the statistics are far from complete, as several of the authors of the publications analyzed in this review highlight.

Within this context, the selected studies confirm that LGBT homicide is a major public health problem, severely affecting mortality rates, especially among the transgender population. The findings confirm the trend of increasing violence against the LGBT community, which is becoming more widespread each year, creating a problem of epidemic proportions.

Collaborations

WG Mendes: Data collection, tabulation, descriptive and analytical analysis. Methodology elaboration. Writing the text and standardizing the rules according to the journal. MJO Duarte: Data collection. Text revision and suggestion of significant parts of the text. CAF Andrade: Methodology elaboration. Text revision and suggestion of significant parts of the text. CMFP Silva: Text revision and suggestion of significant parts of the text.

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