

ORIGINAL ARTICLE

What do we know about the perpetrators of sexual homicide of adult victims? A systematic review and qualitative meta-synthesis

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Abstract

Introduction: sexual homicide is defined as lethal violence associated with sexual elements or motivations, predominantly perpetrated by men against women. Despite being a less frequent crime, there is a growing clinical and forensic interest in its specificities and the characteristics of the aggressor.

Objective: to review the scientific literature on men who commit sexual homicide against adult victims.

Methods: systematic review with MeSH (“Sex Offenses”[Mesh] AND “Homicide”[Mesh]) in the databases of MEDLINE, LILACS, MENDELEY and SciELO, between 1992 and 2023. The PICO strategy was used with the studied population (male sexual offenders), intervention (homicide of adult victims), context (sexual violence), and outcome (potential relationship between the issues). The stages of article selection and analysis involved two independent researchers. Original studies were included, excluding reviews, editorials, conference proceedings, books and chapters, theses, and dissertations. The selected articles were presented through qualitative meta-synthesis.

Results: of the 70 selected articles, 66 articles (94.2%) adopted quantitative methods, 2 (2.9%) qualitative design, and 2 (2.9%) case reports. We found 41 articles (58.6%) conducted in North America and 22 articles (31.4%) in Europe, totaling 63 articles (90.0%). Another five articles (7.1%) were from Asia, one (1.4%) from Africa, and one (1.4%) from Oceania. In 52 articles (74.3%), there was an emphasis on aspects related to psychiatric, behavioral, or psychological disorders of the perpetrator, sexual sadism, or forms of sexual violence or lethal outcomes employed.

Conclusion: sexual homicidal men possess characteristics that set them apart from other homicidal offenders or those who commit sexual violence, directing their crimes towards a heterogeneous group of adult victims. Studies have focused on the psychiatric and behavioral disorders of the perpetrator, as well as the relationship with traumatic experiences in childhood.

Keywords: homicide, sex offenses, sadism, criminal psychology, crime victims.

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Authors summary

Why was this study done?

Homicides driven by sexual motives are deemed relatively uncommon crimes, despite their significant appeal and social visibility. Sexual homicides are gaining increasing clinical and medico-legal interest due to their peculiarities and the characteristics of the perpetrator.

What did the researchers do and find?

The authors conducted a systematic literature review of the past 30 years using the PICO strategy, presenting results through qualitative metasynthesis. Seventy articles were selected, mostly focusing on the psychiatric and behavioral disorders of sexual homicide perpetrators, forms of sexual violence, and employed lethal outcomes.

What do these findings mean?

The results indicate that sexual homicide perpetrators differ from other murderers and sexual offenders, directing their crimes towards a diverse group of victims, with a predominance of women.

Highlights

Sexual homicides were frequently associated with personality disorders, conduct disorders, sexual sadism, use of psychoactive substances, and paraphilias. Death of the victim by strangulation, beating, or mutilation were highlighted in sexual homicides. The recurrence of this type of crime proved to be relevant. Most of the articles point to a high prevalence of sexual homicides against women, which could be classified as sexual femicide.

INTRODUCTION

Sexual homicides began to be studied in 1886, following the publication of ‘Psychopathia Sexualis’ by the German psychiatrist Richard von Krafft-Ebing. It was in this work that he coined the term ‘fatal sadism’ in relation to its occurrence¹. Currently, sexual homicide can be defined as intentional lethal violence with evidence of a sexual element practiced before, during, or after the homicide¹, although some authors consider that direct sexual contact is not mandatory when the act of killing becomes the sexual gratification of the perpetrator².

There isn’t a global rate for this crime, and few countries have estimates like South Africa, where there are 3.65 cases per 100,000 adult and adolescent women³. However, there is a consensus that sexual homicide is uncommon and of low prevalence. Additionally, due to its dependency on specific notification and recording in official databases, its numbers are considered uncertain. Despite this limitation, estimates range from 1% of homicides in the United States⁴ to 4% in Canada⁵. It is believed that the prevalence is significantly higher in countries in armed conflict, primarily against women and children, although with specific and different motivations from other sexual homicides⁴.

Most sexual homicides are committed by male perpetrators^{6,7} and the majority of victims are women^{8,9}. The crime usually involves one perpetrator and one victim, and cases of multiple aggressors or simultaneous multiple victims are uncommon¹⁰. Even less frequent are sexually motivated homicides committed in a serial manner¹¹.

Similar to other violent crimes, sexual homicides can be committed using weapons. However, strangulation, asphyxiation, or beating appear to be more common in sexual homicides^{12,13}. Men are generally identified as the main perpetrators⁷, with a wide range of thoughts and emotions motivating them for the crime, from planning and choosing the victim to the outcome of an impulsive and furious act^{4,14,15}. It’s believed that each sexual homicide may contain elements that allow for the distinction of internal dynamics and motivations of the perpetrator^{4,16,17}.

Studies on sexual homicides have found significant prevalence of psychiatric disorders among

perpetrators¹⁸, behavioral disorders^{19,20}, paraphilias²¹, sadism^{9,22}, personality disorders^{22,23}, and a history of traumatic experiences in childhood²³⁻²⁵. Morphological injuries and functional deficits in certain brain centers are also considered as part of violent behaviors²⁶ and genital abnormalities of the aggressors in childhood²⁷⁻²⁹.

There is a lack of data on sexual homicides in Brazil, and the few available studies report situations involving children and adolescents. Nevertheless, there is a growing clinical and medico-legal interest, not only in the characteristics and severity of the violence but also in aspects related to the perpetrator, such as its occurrence against women as sexual femicides. Thus, the aim is to analyze mortality outcomes caused by male perpetrators of sexual homicide against adult individuals.

METHODS

Systematic review of the literature with qualitative metasynthesis, a modality that comprehends and associates qualitative and quantitative findings from studies with different designs, allowing analysis from other perspectives and interpretations. Qualitative meta-synthesis is used in the health sciences because it allows the inclusion of studies with individual experiences in the health-disease process, enabling the assimilation of characteristics of individuals in the face of lived experiences and interpersonal relationships, as indicated in investigations in psychiatry³⁰.

The Patient, Intervention, Comparison, and Outcomes (PICO) strategy was adopted in constructing the research, with the question containing the studied population (male sexual offenders), intervention (homicide of adult victims), context (sexual violence), and outcome (potential relationship between the issues). Therefore, the study population consisted of male perpetrators of sexual homicide, of any age, who committed the crime against adult victims, male or female. Studies involving children and adolescents were excluded. The review’s outcomes of interest were: a) information regarding the psychopathology of the sexual homicide; b) sociodemographic characteristics of the perpetrator and the victim; c) traumatic experiences in the childhood of the perpetrator; d) possibility for

reoffending; e) modus operandi of the perpetrator and crime scene; f) type of sexual violence practiced; and g) the form of aggression leading to the lethal outcome.

The search was limited to the interval between 1992 and 2023, the last 30 years, a period with the highest concentration of publications as indicated by Medical Literature Analysis and Retrieval System Online (MEDLINE). Language criteria were not applied for the inclusion or exclusion of articles. The electronic databases of the Scientific Electronic Library Online (SciELO), the Latin American and Caribbean Literature in Health Sciences (LILACS), MENDELEY, and MEDLINE were consulted, using the combination of descriptors ('Homicide'[Mesh]) AND 'Sex Offenses'[Mesh].

Original studies on incidence, prevalence, prognosis, diagnosis, observational, screening, cross-sectional, case report, controlled clinical trials, and qualitative research were considered. Review articles, letters or editorials, books or chapters, duplicates, theses, dissertations, monographs, and inaccessible articles were excluded.

The entire process of selecting and analyzing the articles was conducted by two independent researchers, and cases of disagreement regarding inclusion or exclusion were decided upon by a third researcher. In the first stage, 731 articles were identified: 492 in MEDLINE, 193 in MENDELEY, 27 in LILACS, and 19 in SciELO. Screening based on reading titles, abstracts, and population of study resulted in the exclusion of 506 articles. Out of the 225 articles selected for reading, 155 were excluded due to: 86 (55.5%) off-topic; 39 (25.1%) reviews; 11 (7.1%) duplicates; eight (5.2%) books or chapters; five (3.2%) theses; four (2.6%) letters to the editor; and two (1.3%) unavailable articles.

The process concluded with 70 selected articles cataloged using Microsoft Excel®. Request for payment to access the full text occurred in 49 (70.0%) of the 70 selected articles. The synthesis of the flow, search strategy, and selection process is shown in figure 1. As a systematic review, this article is exempt from submission and approval by the Research Ethics Committee, as per Article 26 of Resolution No. 674, National Commission of Ethics in Research.

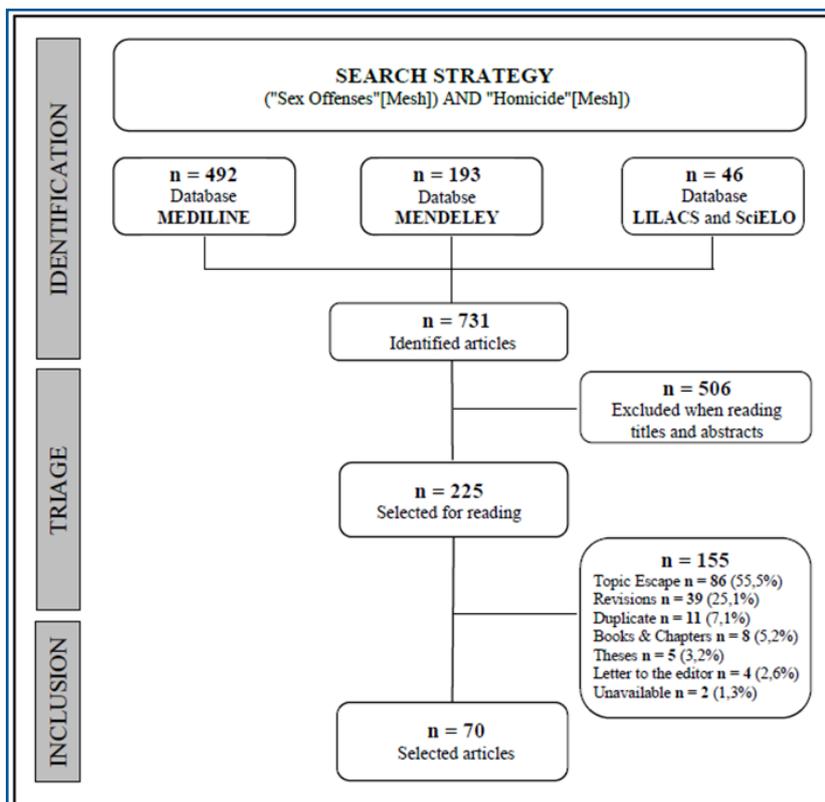


Figure 1: Flowchart of search strategy and article selection for review

RESULTS

Considering the research designs, 66 articles (94.2%) adopted quantitative designs, two articles (2.9%) had a qualitative design, and two articles (2.9%) were case reports. Regarding the geographical distribution of production, 41 articles (58.6%) were conducted in North America, and 22 articles (31.4%) were elaborated in Europe, totaling 63 articles or (90.0%) of the selected ones. Five other articles (7.1%) were from Asia, one article (1.4%) from Africa, and one article (1.4%) from Oceania. There were no research articles from Latin America and the Caribbean.

The articles addressed various aspects related to the perpetrator of sexual homicide using different analysis tools and models in heterogeneous populations, which limited comparisons. In 52 articles (74.3%), there was a predominance of study variables related to psychiatric, behavioral, or psychological disorders of the sexual homicide perpetrator, emphasizing sadism, as well as paraphilias, forms of sexual violence, and methods employed for the lethal outcome. One or more identified themes were grouped according to table 1, indicating their authorship and the reference of the articles in which they were addressed.

Table 1: Main aspects or themes identified in the study variables of the 70 selected articles, considering one or more themes addressed per article

Theme	n	%	Article Reference
Psychiatric or behavioral disorders of the offender	24	34,3	1, 13, 15, 17, 18, 19, 22, 23, 24, 25, 33, 47, 48, 50, 51, 55, 56, 57, 58, 60, 62, 64, 69, 80
Types of sexual violence or forms of lethal outcome used	19	27,1	3, 7, 8, 11, 13, 18, 29, 33, 35, 50, 51, 52, 55, 60, 66, 67, 70, 71, 79
Sexual sadism	12	17,1	9, 12, 15, 22, 23, 24, 25, 42, 47, 48, 49, 80
History of traumatic experiences in childhood	8	11,4	13, 19, 23, 24, 44, 45, 77, 78
Crime scene and modus operandi of the perpetrator	8	11,4	16, 37, 38, 49, 65, 67, 72, 79
Perpetrator's reoffending	7	10,0	17, 19, 36, 73, 75, 77, 78
Classifications, categories, typologies	7	10,0	12, 14, 40, 41, 42, 53, 59
Sexual homicides committed by young individuals	7	10,0	19, 33, 34, 36, 42, 73, 78
Serial sexual homicide crimes	5	7,1	11, 15, 25, 39, 56
Physical disorders of the perpetrator	3	4,3	22, 27, 46
Others	9	12,8	3, 6, 10, 32, 54, 61, 63, 68, 73

The synthesis of the main findings from the 70 selected original articles is presented in table 2 in

chronological order, indicating authors, year of publication, journal, and study characteristics.

Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Myers e Blashfield ³³ (1997)	Journal of American the Academy of Psychiatry and the Law	Analysis of personality and psychopathology in 14 young sexual offenders. Conducted in the USA	High scores of personality disorders and psychopathy were found. Two-thirds reported violent sexual fantasies. The majority used a knife to kill known victims selected for low risk
Firestone et al. ²³ (1998)	Journal of American the Academy of Psychiatry and the Law	Comparing 48 sexual murderers with incest offenders using the Derogatis Sexual Functioning Inventory, Buss-Durkee Hostility Inventory, and Psychopathy Checklist-Revised. Conducted in Canada	Sexual offenders reported having been removed from home during childhood and having more experiences of violence. They exhibited higher levels of response to pedophilic stimuli, increased frequency of psychosis, personality disorder, paraphilias, sadism, and substance use

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Myers et al. ¹⁹ (1998)	Journal of Forensic Sciences	Descriptive study involving 14 young men incarcerated for sexual homicide through interviews. Conducted in the USA	All victims were women of the same race and lived in the same neighborhood. Weapons were used in almost all cases. Thirteen young individuals had a history of violence. Chaotic, abusive environments, and poor school adaptation were typical. Conduct disorder was present in twelve young individuals. Violent sexual fantasies were reported in half of the sample
Myers e Monaco ³⁴ (2000)	Journal of Forensic Sciences	Study involving 14 young individuals who committed sexual homicide using different instruments. Conducted in the USA	The authors found no evidence that adolescent sexual homicides are a consequence of anger
Gacono et al. ⁵⁷ (2000)	Journal of Clinical Psychology	Comparison of 32 non-sexual offender psychopaths, 38 sexual murderers, and 39 pedophiles on selected Rorschach variables. Conducted in the USA	Perpetrators of sexual homicides exhibited high levels of obsessive thinking and an inability to disengage from environmental stimuli
Kocsis et al. ¹⁴ (2002)	International Journal of Offender Therapy and Comparative Criminology	Study with a sample of 85 sexual homicides from all Australian jurisdictions, using multidimensional scaling. Conducted in Australia	Four patterns of aggressor were identified: predator, furious, perversion, and rape. Each pattern exhibited distinct dynamics and styles of crime
Langevin ²⁴ (2003)	International Journal of Offender Therapy and Comparative Criminology	Comparison of 33 sexual murderers with 80 convicted non-homicidal sexual offenders. Conducted in Canada	Sexual offenders initiated crimes at an earlier age, were more involved in criminal groups, and exhibited more cruelty towards animals. Sadism, fetishism, and voyeurism were more frequent, along with personality disorder and neuropsychological impairment

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Porter et al. ¹ (2003)	Law and Human Behavior	Comparison of 18 psychopathic sexual murderers and 20 non-psychopathic individuals using the Psychopathy Checklist-Revised (PCL-R). Conducted in Canada	84.7% of sexual murderers scored in the moderate to high range on the PCL-R. 82.4% of psychopathic sexual offenders exhibited some degree of sadistic behavior in the crimes
Milsom et al. ⁴⁴ (2003)	Sexual Abuse	Qualitative study on levels of loneliness among sexual murderers and non-homicidal rapists. Conducted in the United Kingdom	Sexual murderers exhibited higher levels of complaints regarding women in childhood and loneliness in adolescence
Huprich et al. ⁵⁸ (2004)	Behavioral Sciences & the Law	Application of the Rorschach Oral Dependency Scale in 32 non-sexual offender psychopaths, 38 sexual murderers, and 39 pedophiles. Conducted in the USA	Non-violent pedophiles showed higher scores of interpersonal dependency. A high degree of association between interpersonal dependency and aggression was observed among sexual murderers
Hill et al. ⁴⁸ (2006)	Journal of Personality Disorders	Comparison of characteristics between 61 sadistic sexual murderers and 105 non-sadistic sexual murderers. Conducted in Germany	In sexual sadists, a more frequent childhood history was observed, including nocturnal enuresis, isolation, signs of ADHD, physical abuse, and recurrent lying
Briken et al. ⁴⁶ (2006)	American Journal of Medical Genetics, Neuropsychiatric Genetics	Analysis of three cases of sexual murderers with XYY karyotype (Jacob's Syndrome). Conducted in Canada	Jacob's Syndrome was found in 1.8% of sexual homicide offenders, characterized by prepubertal abnormalities, school problems, and physical abuse. All were diagnosed as sexual sadists
Briken et al. ⁴⁹ (2006)	Journal of Forensic Sciences	Compares the association of paraphilic disorder and non-paraphilic hypersexuality in 161 sexual murderers. Conducted in Germany	The group with both conditions presented the highest levels of sexual impulsivity disorder, more developmental problems, a greater number of previous sexual crimes, sexual sadism, and compulsive masturbation

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Hill et al. ²⁵ (2006)	Psychopathology	Compares psychiatric disorders between 130 single sexual murderers and 36 multiple sexual murderers using the Structured Clinical Interview. Conducted in Germany	In multiple sexual murderers, sexual sadism, voyeurism, and sadistic, antisocial, and schizoid personality disorders were more frequent
Oliver et al. ⁶² (2007)	International Journal of Offender Therapy and Comparative Criminology	Comparison between 58 sexual murderers and 112 rapists using the Millon Clinical Multiaxial Inventory-III scale. Conducted in the United Kingdom	Sexual murderers were less likely to be in a relationship at the time of the crime and tended to select older victims. No differences were found in personality scales
Morrison ⁶⁴ (2007)	Journal of Forensic Sciences	Case report. Conducted in Canada	Case report of workplace stalking followed by sexual homicide of the woman. Discusses the predatory stalker as a dangerous and violent offender
Ujeyl et al. ¹⁷ (2008)	Der Nervenarzt	Comparison of 45 sexual murderers detained in a forensic psychiatric hospital and 89 sexual murderers in the prison system. Conducted in Germany	Sexual murderers in psychiatric hospitals exhibited higher psychiatric morbidity and a slightly elevated risk of future sexual and non-sexual violence. They were less frequently released from the hospital, but did not show a higher incidence of sexual violence recidivism
Hill et al. ⁷⁴ (2008)	International Journal of Offender Therapy and Comparative Criminology	Study on recidivism with 90 sexual murderers using Kaplan-Meier analyses. Conducted in Germany	Risk was 23.1% for sexual violence recidivism and 18.3% for non-sexual violent recidivism. Violent recidivism was associated with young offenders in the first sexual crime
Abrahams et al. ³ (2008)	Forensic Science International	Comparison of sexual and non-sexual homicides of women over 13 years old in a random and proportional national sample of forensic laboratories. Conducted in South Africa	Sexual homicide occurred in 16.3% of cases, with a rate of 3.65/100,000 women. The assailant more frequently did not know the victim, who was generally older, with a higher number of injuries, and death often resulted from strangulation or blunt trauma

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Myers et al. ⁷¹ (2008)	Forensic Science International	Case report. Conducted in the USA	Five cases of serial sexual murderers with autoerotic asphyxiation. All presented sexual sadism
Busch et al. ⁷⁷ (2009)	Psychological Reports	Study on the risk of recidivism in young adults convicted of rape, sexual homicide, and sexual abuse. Conducted in the USA	Low social maturity and prior conviction were predictors of the risk of sexual murderers' recidivism when compared to non-violent offenders. The predictors included low social maturity and judicial contacts
Häkkinen-Nyholm et al. ¹³ (2009)	Forensic Science International	Comparison of 676 individuals convicted of sexual and non-sexual homicide based on police reports and forensic examination reports, scored with the PCL-R. Conducted in Finland	In 18 cases (2.8%), sexual homicide was identified. Strangulation and body disposal were more frequent in sexual homicides. Mental health issues, childhood sexual abuse, and a history of sexual crime were more common in sexual murderers
Myers et al. ³⁶ (2009)	Journal of Investigative Psychology and Offender Profiling	Descriptive study on recidivism with 22 young sexual murderers. Conducted in Canada	Conduct disorder, personality disorder, and sexual sadism were prevalent. Recidivism occurred in 55% with higher scores on the Hare Psychopathy Checklist-Revised. 27% progressed to serial sexual murderers
Schlesinger et al. ³⁷ (2010)	Journal of the American Academy of Psychiatry and the Law	National sample of 38 serial sexual homicide offenders and 162 victims, assessing the use of rituals or personal marks in the crimes. Conducted in the USA	No signs of an offender 'signature' or involvement in rituals were found. The behavior of sexual murderers at the crime scene was heterogeneous and complex
Chan et al. ⁶⁵ (2010)	Journal of Forensic Sciences	Relationship between the race of the offender and the victim in a sample from the Supplemental Homicide Reports, 1976-2005. Conducted in the USA	White sexual murderers were highly prone to killing individuals of the same race, while black offenders killed both black and white individuals

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Koch et al. ²² (2011)	Journal of Forensic Sciences	Compares psychiatric disorders between 166 sexual murderers and 56 non-murderers using the Structured Clinical Interview for DSM Axis II Disorders (SCID-II) and the PCL-R. Conducted in Germany	Sexual murderers were more frequently diagnosed with personality disorder (80.1% versus 50%), schizoid personality (16.3% versus 5.4%), sexual sadism (36.7% versus 8.9%), and sexual dysfunctions (21.7% versus 7.1%)
Hill et al. ⁷⁵ (2012)	Journal of Interpersonal Violence	Study with 90 released sexual murderers using PCL-R, Assessing Risk for Violence-20 (HCR-20), Sexual Violence Risk-20 (SVR-20), and Static-99 in predicting recidivism. Conducted in Germany	The total scores and subscales of the examined instruments did not prove capable of predicting sexual homicide recidivism
Healey et al. ⁵⁹ (2013)	International Journal of Offender Therapy and Comparative Criminology	Study with 268 sexual murderers on sexual sadism and aspects of the crime scene. Conducted in Canada	Results suggested that various behaviors at the crime scene overlap with the diagnosis of sexual sadism, capable of distinguishing between sexual offenders against women and sexual murderers
Beauregard e Martineau ⁸ (2013)	International Journal of Offender Therapy and Comparative Criminology	Descriptive study on 250 solved sexual homicides between 1948 and 2010. Conducted in Canada	As victims were women (89.7%) with an average age of 27.2 years, predominantly white (62.8%). The offenders had an average age of 28.4 years, were mostly white (66%), and single (57.2%). Homicides occurred through beating (47.1%), strangulation (41.7%), and vaginal intercourse (46.3%)
Rettenberger et al. ²⁷ (2013)	The Journal of Sexual Medicine	Investigates the history of genital abnormalities in childhood and the development of psychosexual problems among 163 convicted sexual murderers. Conducted in Germany	The prevalence of cryptorchidism, hypospadias, and phimosis was higher in sexual murderers than in the general population. Offenders with these abnormalities exhibited more sexual dysfunctions in adulthood and masochistic sexual interests

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Sewall et al. ⁴⁰ (2013)	Sexual Abuse	Study with biographical data from 82 serial sexual murderers to test the offender typology model. Conducted in Canada.	The analysis yielded five components composed of characteristics of the offender and the crime. Cluster analysis revealed three distinct groups of perpetrators: sadistic offenders, offenders at a competitive disadvantage, and slashers
Chan et al. ⁵⁶ (2015)	Criminal Behavioral Mental Health	Comparison between 73 single-victim sexual murderers and 13 serial sexual murderers. Conducted in Canada	Serial sexual murderers were more prone to deviant sexual fantasies, victim selection, and structured premeditation. They exhibited more narcissistic, schizoid, and obsessive-compulsive traits, sexual masochism, pedophilia, and voyeurism
Kerr e Beech ⁶⁰ (2016)	Journal of Interpersonal Violence	Qualitative study with eight convicted sexual murderers detained in a secure hospital. Conducted in the United Kingdom	Four significant themes were found to understand sexual homicide: avenging sexual abuse, reaction to mental disorder, homicidal impulse, and loneliness
Khachatryan et al. ⁷⁸ (2016)	International Journal of Offender Therapy and Comparative Criminology	Analysis of eight cases of adolescent sexual murderers 30 years after conviction. Conducted in the USA	The average sentence duration was 12 years and 2 months. Half of the offenders were re-arrested for crimes unrelated to sexual homicide
Chan e Beauregard ¹⁸ (2016)	Journal of Interpersonal Violence	Comparison of the psychopathological profile of 96 non-homicidal sexual offenders and 74 homicidal sexual offenders in detention. Conducted in Canada	Homicidal sexual offenders selected and mutilated their victims more, had more deviant sexual fantasies, and admitted to the crime when arrested. They exhibited more paranoid, schizoid, borderline, histrionic, narcissistic, and obsessive-compulsive personality traits

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Healey et al. ⁴¹ (2016)	Sexual Abuse	Explores the sexual murderer as a unique type of offender hypothesis and sexual homicide as a differential outcome of the sexual aggression hypothesis. Conducted in Canada	Results suggested that both hypotheses can be supported
Myers et al. ³¹ (2016)	Criminal Behavioral Mental Health	Study on age of arrest and incidence trends of sexual homicide over three decades. Conducted in the USA	The average age at the time of arrest for sexual homicide increased from 25 years to 29 years. During the study period, there was a decrease in the number of sexual homicides
Beauregard e Martineau ³⁸ (2016)	Journal of Interpersonal Violence	Evaluates the effect of the organized behavior of sexual murderers in avoiding crime detection. Conducted in Canada	There was a relationship between the organized behavior of the offender and measures to delay or avoid the detection of the crime
Martineau e Beauregard ⁷² (2016)	Police Practice and Research	Study on the displacement of sexual murderers in a sample of 214 cases. Conducted in Canada	Sexual murderers who engage in crime-related displacements tend to target sex workers and move the body after the crime
Carter et al. ⁶⁷ (2017)	International Journal of Offender Therapy and Comparative Criminology	Compares the crime scene of 65 sexual homicide cases and 64 non-sexual homicide cases. Conducted in the United Kingdom	Victims of sexual homicide were generally found at their residence, with the lower half of the body exposed and evidence of vaginal intercourse, with more frequent severe injuries and strangulation
Schlesinger et al. ³⁹ (2017)	Journal of the American Academy of Psychiatry and the Law	Non-random national sample with 44 serial sexual murderers and 201 victims aiming to establish the time between crimes. Conducted in the USA	56.8% of offenders committed sexual homicides with more than a 14-day interval, 43.2% committed crimes in rapid succession (less than 14 days), and 13.6% with a few days interval
Myers et al. ⁶ (2017)	Journal of Forensic Sciences	Analysis of 55 sexual homicides with an age cutoff of 55 years using data from the US Supplementary Homicide Reports. Conducted in the USA	32 sexual murderers were aged ≥ 55 years (0.5%). They committed the crime against older women, with two-thirds being 40 years or older, and one-third being 55 years or older

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Higgs et al. ⁶⁸ (2017)	Sexual Abuse	Comparison of 48 sexual homicides of women with post-mortem sexual acts with 48 sexual crimes without homicide. Conducted in the United Kingdom	Sexual homicides with post-mortem sexual acts were not related to unknown victims or the use of weapons
DeLisi e Beauregard ⁴⁵ (2018)	Journal of Forensic Sciences	Study with 85 men convicted of sexual homicide associating the crime with adverse childhood experiences suffered by the offender. Conducted in Canada	The odds of committing sexual homicide increased by 334% with a history of violence, 249% when victimized, and 546% with the total adverse experiences. The effects intensified in models adjusted for childhood enuresis, cruelty to animals, parental abandonment, deviant sexual behavior, self-image problems, and sexual disorders
Chan et al. ⁷ (2019)	International Journal of Offender Therapy and Comparative Criminology	Data from 59 sexual homicides collected from case reports and police databases, 1994 to 2016. Conducted in China	Offenders showed an average age of 32.4 years, 97% were men, 67% were single, 68% had completed high school, and 80% had no previous convictions. 83% of the victims were women, with 63% having no prior relationship with the perpetrator, and 57% were approached through deception. In 41% of the cases, a weapon was used in the crime, 88% involved vaginal acts, and 47% included mutilation
Higgs et al. ¹⁰ (2019)	International Journal of Offender Therapy and Comparative Criminology	Descriptive study with 21 sexual homicides involving two or more offenders and two simultaneous victims. Conducted in Canada	No sexual murderer was identified as dominant or passive, and they were active in both sexual and violent acts. No evidence was found that one of the offenders was coerced by the other

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Sturup et al. ⁶¹ (2019)	International Journal of Offender Therapy and Comparative Criminology	Comparison of 33 sexual homicides identified in a database, 1990-2013, compared with non-sexual homicides. Conducted in Sweden	Sexual homicides accounted for 1.6% of the cases. 82% of the cases were solved, but often longer after the crime. Strangulation was more frequent, and the victims were younger. The majority had a personality disorder
Chan e Li ⁵² (2019)	Behavioral Sciences & the Law	Compares characteristics of 82 sexual murderers who mutilated victims and 31 who did not. Conducted in China	Offenders who mutilated victims were more motivated by sexual reasons than financial gain and were more likely to have a previous conviction for a sexual offense
Stefanska et al. ⁹ (2019)	Psychological Assessment	Explores sadism in a national sample of 350 sexual homicides against women using the Sexual Sadism Scale (SeSaS). Conducted in the United Kingdom	The prevalence of sexual sadism was estimated at 37% in the sample
Chopin e Beauregard ⁶³ (2019)	Behavioral Sciences & the Law	Comparison between 1,263 violent rapes and 303 sexual homicides of adult women. Conducted in France	Physical violence and victim resistance were associated with sexual homicide, as well as the use of psychoactive substances and social isolation of the offender
Sea et al. ³⁵ (2019)	International Journal of Offender Therapy and Comparative Criminology	Compares sexual homicides committed by Korean and Canadian offenders. Conducted in Korea	They found specific differences between the two offender groups related to criminal history, offender's age, modus operandi, type of violence, and use of weapons
Rajan ⁴⁷ (2019)	International Journal of Offender Therapy and Comparative Criminology	Analysis of offenders in 51 sexual homicide cases based on scores for sexual sadism and psychopathy. Conducted in Scotland	Psychopathy and sexual sadism played key roles in sexual homicide, interacting with each other and determining different aspects of the crimes and offenders

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
James et al. ¹⁵ (2019)	International Journal of Offender Therapy and Comparative Criminology	Analysis of 120 sexual homicides comparing 33 serial offenders and 87 non-serial offenders. Conducted in France	The modus operandi of serial offenders were shaped by homicidal, sadistic, and rape fantasies. In non-serial offenders, it was shaped by the need to satisfy immediate sexual needs
Chan et al. ⁶⁶ (2019)	Sexual Abuse	Compares 3,009 sexual homicides committed by men and 151 by women regarding the type of weapon used. Conducted in the USA	Male sexual offenders used significantly fewer weapons that required less direct physical contact with the victim, such as firearms and edged weapons
Koeppel et al. ¹¹ (2019)	International Journal of Offender Therapy and Comparative Criminology	National sample comparing 207 non-serial sexual homicides and 53 serial sexual homicides with the introduction of foreign objects into the victim's body. Conducted in the USA	The occurrence of introducing foreign objects was similar in both groups. There was no evidence found that these offenders were psychotic, with similar levels of sadism in both groups
Chan et al. ⁵³ (2019)	Criminal Behavioral Mental Health	Analysis of 67 sexual homicides in three regions of China based on motivation for power and control, sex and anger, and financial gain. Conducted in China	Sexually motivated, financially motivated, and anger-motivated sexual offenders were more likely to target unfamiliar women. Offenders motivated by power and control were more likely to target their partners
Rodre et al. ⁵⁰ (2019)	Nordic Journal of Psichiatriy	National records of homicides with court sentences involving 72 male offenders assessed with the PCL-R. Conducted in Sweden	Convicted sexual murderers scored higher on the PCL-R. Sixty percent had a prior conviction for a violent crime, 80% of the victims were women, and 60% used gun

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Chopin e Beauregard ⁸⁰ (2019)	International Journal of Offender Therapy and Comparative Criminology	Comparison of sexual homicide offenders, non-sexual homicide offenders, and non-lethal violent sexual offenders. Conducted in Canada	Sexual murderers were more likely to have paraphilic disorders and sexual dysfunction. Unknown victims approached suddenly or by fraud were more common. Weapons used were less likely to be removed from the scene and more often recovered by the police
Chopin e Beauregard ⁴² (2020)	Journal of Forensic Sciences	Comparison of 55 young sexual homicide offenders with 281 adults. Conducted in Canada	Four different patterns of young sexual murderers were identified: explosive opportunistic, sadistic, super-controlled anger, and predator
Chan e Li ⁵⁴ (2020)	Journal of Criminal Justice	Descriptive study of 84 sexual homicides committed by men in three regions of China. Conducted in China	In female victims, sexual homicides were mainly motivated by sex and involved the use of fraud to approach the victims
Beauregard e DeLisi ⁵¹ (2021)	Journal of Interpersonal Violence	Comparison of 85 sexual murderers with violent non-homicidal sexual offenders and non-homicidal sexual offenders. Conducted in Canada	Sexual offenders displayed a higher frequency of Schizoid and Borderline Personality Disorders, were more prone to selecting victims, using weapons, and consuming illicit drugs and alcohol before the crime
Skott et al. ³² (2021)	Journal of Interpersonal Violence	Study using police database comparing 89 sexual homicides of adult women and 306 non-sexual homicides. Conducted in Scotland	Sexual offenders showed a higher association with indicators of instrumentality and sexual deviation
Chan ⁷³ (2021)	Behavioral Sciences & the Law	Sample of 2,851 sexual homicides from the Supplementary Homicide Reports, comparing crimes against sex workers or non-sex workers. Conducted in the USA	In sex workers, there was a higher frequency of firearms and edged weapons (65.5% versus 41.5%) and less frequent violent physical contact (34.5% versus 58.5%)

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Chopin et al. ⁶⁹ (2021)	International Journal of Offender Therapy and Comparative Criminology	Analysis of 109 sexual homicides with post-mortem sexual acts committed by the offender. Conducted in Canada	Four patterns of necrophilia in sexual homicides were identified: preferential, opportunistic, experimental, and sadistic. Only preferential murderers killed victims to engage in sexual acts
Stefanska et al. ⁵⁵ (2021)	Journal of Interpersonal Violence	Analysis of 350 sexual homicides comparing whether the sexual element and the act of killing were directly or indirectly associated, and the level of injuries according to the Homicide Injury Scale (HIS). Conducted in the United Kingdom	Offenders with a direct association between the sexual element and the crime were more related to deviant fantasies. No difference was found in the mean HIS scores between the two groups
Chai et al. ¹⁶ (2021)	International Journal of Offender Therapy and Comparative Criminology	Investigation of patterns of victim body disposal in sexual homicide among 250 solved cases and 100 unsolved cases. Conducted in Canada	In solved cases, the body was moved when the victim was a sex worker, and the body was hidden and in a prone position. In unsolved cases, body movement was found in sex workers with the body recovered outdoors
Beauregard et al. ⁷⁰ (2022)	Journal of Interpersonal Violence	Study with 662 cases of sexual homicide comparing the insertion of foreign objects in the victim and sexual homicides without insertion of objects. Conducted in Canada	The insertion of foreign objects occurred in 84 cases (12.7%), more frequent among offenders with sexual dysfunction, among victims who used alcohol or drugs before the crime, or who were beaten. Post-mortem sex was more likely in cases with the insertion of objects
Kim et al. ¹² (2023)	Journal of Forensic and Legal Medicine	Analysis of 451 sexual homicides of adult women by strangulation. Conducted in Canada	Three hypotheses supported sexual homicide by strangulation: opportunity, victim vulnerability, and sexual sadism

Continuation - Table 2: Synthesis of the main findings in 70 selected articles about male perpetrators of sexual homicides of adult victims, from 1992 to 2023

Authors/Year	Publication	Study characteristics	Synthesis of results
Chopin et al. ⁷⁹ (2023)	Journal of Interpersonal Violence	Study with 613 sexual offenders, 60 of them convicted of sexual homicide. Conducted in Canada.	Individuals who experienced adverse childhood experiences were more likely to develop risk factors for sexual homicide
Chopin e Beauregard ²⁹ (2023)	International Journal of Offender Therapy and Comparative Criminology	Comparison of sexual homicides against adult men and women using data from the Homicide International Database. Conducted in Canada.	In sexual homicide against males, strategies that involved physical confrontation with the victim were used. Gender played a significant role in the offenders' choices

DISCUSSION

Out of the 70 selected articles, only one study reported a decline in sexual homicides. The analysis of Myers *et al.*⁵⁴, from 1976 to 2007, there was a decrease in this crime in the USA committed by young and adult men, along with a significant increase in the average age of the perpetrator from 25 to 29 years. Some descriptive studies provided sociodemographic information about the perpetrator. In China, data from 59 sexual homicides collected from case reports and police databases between 1994 and 2016 showed that the perpetrators had an average age of 32.4 years, 97% were men, 67% were single, 68% had completed high school, and 80% had no previous criminal convictions⁷. In Canada, a study of 250 solved sexual homicides between 1948 and 2010 found an average age of the perpetrator at 28.4 years, with 66% being Caucasian and 57.2% being single⁸.

Sexual homicides of adult women seem to be more associated with indicators of instrumentality and individuals with sexual deviances more frequently⁷³. Myers *et al.*¹⁹ studied incarcerated young sexual homicides in the USA. All victims were women of the same race and residing in the same area, experiencing vaginal acts in over half of the cases. Weapons were used in almost all cases. Thirteen young perpetrators had a history of violence, and twelve had been previously arrested before the sexual homicide. Chaotic, abusive contexts, and low school adaptation were common events, with conduct disorder present in twelve youths and violent sexual fantasies reported in half of the sample. In later studies, Myers and Monaco³² and Myers and Blashfield³¹ did not identify that sexual homicides committed by young individuals were motivated by anger.

Young sexual homicide perpetrators were addressed in the article by Myers and Blashfield³¹. Moderately high scores of personality disorders and psychopathy were found in 14 studied cases, with two-thirds of young sexual homicide perpetrators reporting violent sexual fantasies. The majority of these offenders used knives to kill known victims selected as low-risk.

On the other hand, only one article addressing elderly sexual homicide perpetrators was found. In the EUA, Myers *et al.*⁶ compared 3,453 cases of sexual homicide

with an age range starting at 55 years using data from US Supplementary Homicide Reports. The authors identified 32 elderly sexual homicide perpetrators, comprising 0.5% of the sample, highlighting a preference for older female victims. Similarly, only one article compared characteristics of male sexual homicide perpetrators from two countries⁶⁴.

Serial sexual homicide was found in some articles. Myers *et al.*⁴⁴, in a study with 22 young men who committed sexual homicide, found a high prevalence of conduct disorders, personality disorders, and sexual sadism. Recidivism occurred in 55% of cases among offenders with higher scores on the Hare Psychopathy Checklist-Revised, with 27% of them escalating to serial sexual homicide.

Schlesinger *et al.*⁴⁵ assessed a national sample in the USA consisting of 38 serial sexual homicide perpetrators and 162 victims regarding the possibility of engaging in rituals or leaving any “signature” in the crimes. The findings did not support these hypotheses, suggesting that the conduct of serial killers at the crime scene appeared to be complex and heterogeneous.

Some studies indicated that serial sexual homicide perpetrators, although considered methodical, took a substantial amount of time between crimes to avoid being identified, much like organized behaviors of non-serial sexual homicide perpetrators seem to do to delay crime detection⁵⁵. However, this information was contested in the study by Schlesinger *et al.*⁵⁸, when analyzing a non-random national sample of 44 serial sexual homicide perpetrators and 201 victims. The authors found that 56.8% of sexual homicides had intervals of more than 14 days between crimes, 43.2% were committed within less than 14 days, and 13.6% occurred in rapid succession with few days in between.

In the article by Sewall *et al.*⁴⁹ a model was tested that classified serial sexual homicide into three types of offenders based on biographical data from 82 individuals, considering that other typologies lacked theoretical foundation and empirical support. The analysis produced five components composed of offender and crime characteristics, and the cluster analysis revealed

three distinct groups of perpetrators: sadistic offenders, competitively disadvantaged offenders, and slashers.

Healey *et al.*⁵³ explored the sexual killer as a unique type of offender hypothesis and sexual homicide as a distinct outcome from the sexual violence hypothesis. When it comes to young male sexual homicide perpetrators, Chopin and Beauregard⁷⁰, identified patterns of offenders characterized as explosive opportunist, sadistic, super-controlled anger, and predator.

Research focusing on the possible effect of adverse childhood experiences on men who have committed sexual homicide is considered scarce, although theoretical models have postulated their association with the development of internal risk factors in the offender⁷⁰. However, some articles addressing this aspect were found. In the United Kingdom, Milsom *et al.*³⁴ conducted a qualitative study comparing levels of emotional loneliness between sexual homicide perpetrators and non-lethal rapists, employing the inductive-deductive method of Grounded Theory. Sexual homicide perpetrators reported higher levels of complaints regarding women in childhood and loneliness during adolescence.

In Canada, a study by DeLisi and Beauregard⁶⁰ employed the framework of adverse childhood experiences to assess associations between exposure to violence, victimization, and total adverse childhood experiences within a sample of 85 men convicted of sexual homicide. The likelihood of committing sexual homicide increased by 334% when the offender had a history of childhood violence, by 249% when they were victims themselves, and by 546% with the total adverse childhood experiences. These effects intensified in adjusted models for childhood enuresis, animal cruelty, parental abandonment, deviant sexual behavior, self-image issues, and sexual disorders.

In Canada, Firestone *et al.*²³ compared 48 sexual homicide perpetrators with incest perpetrators, using the Derogatis Sexual Functioning Inventory, Buss-Durkee Hostility Inventory and the Psychopathy Checklist-Revised (PCL-R). Sexual homicide perpetrators reported a more frequent occurrence of being removed from their homes during childhood and experiencing more violent experiences. In Finland, a history of childhood sexual abuse was also reported more frequently among sexual homicide perpetrators¹³.

Few articles reported aspects of the physical health of sexual homicide perpetrators. In Germany, Rettenberger *et al.*²⁷ investigated 163 sexual homicide perpetrators and found a significantly higher occurrence of genital abnormalities in childhood (cryptorchidism, hypospadias, and phimosis) compared to the general population. They also found a higher frequency of sexual dysfunction in adulthood and a greater tendency towards masochistic sexual interests.

The article by Briken *et al.*³⁷ described the identification of XYY karyotype, Jacob's Syndrome, in three sexual homicide perpetrators. The prevalence was 1.8%, significantly higher than that found in unselected samples of convicts (0.7% to 0.9%) and in the general population (0.01%). The three men had prepubertal abnormalities, school problems, suffered physical abuse, and were diagnosed as sexual sadists.

Neurochemical and neuroimaging studies indicate the involvement of morphological lesions and functional deficits in certain brain centers as part of violent behaviors, primarily the limbic system, temporal lobes, and frontal lobes²⁶. However, none of the articles selected in this review conducted research in this field, emphasizing instead clinical studies on psychiatric and behavioral disorders related to sexual homicide.

In Australia, Kocsis *et al.*¹⁴ examined 85 cases of sexual homicide sampled from all jurisdictions of the country using a multidimensional scaling statistical procedure. The authors identified four distinct offender patterns: predator, fury, perversion, and rape. Each pattern presented a distinct crime dynamic and style.

Several articles addressed sexual sadism as an important element in sexual homicide. Rajan *et al.*⁶⁵, in Scotland, found psychopathy and sexual sadism playing pivotal roles, interacting with each other and determining different aspects of sexual homicide and the offenders. Stefanska *et al.*⁹ using the Sexual Sadism Scale (SeSaS), found a prevalence of 37% of sadism in a national sample of 350 men who committed sexual homicide in England and Wales against adult women. Hill *et al.*³⁶ compared characteristics of 61 sadistic sexual offenders and 105 non-sadistic ones, finding a higher history of childhood nocturnal enuresis, isolation, signs of Attention-Deficit/Hyperactivity Disorder, physical abuse, and recurrent lying among sadistic offenders.

Porter *et al.*^{1,18} psychopathic and 20 non-psychopathic sex killers coded by the PCL-R were analyzed. The majority of sexual offenders (84.7%) scored in the moderate to high range on the PCL-R, and in 82.4% of cases involving psychopaths, some degree of sadistic behavior in the crime was found. Sexual sadism was also associated with various aspects at the homicide scene, allowing the distinction between the two groups³⁸. In Rodre *et al.*⁶⁸ article higher PCL-R scores were also described in individuals convicted of sexual homicide.

In the article by Hill *et al.*²⁵, the presence of sexual psychiatric disorders was compared between 130 single-victim sexual murderers and 36 with multiple victims, using psychiatric reports and the Criteria from the Structured Clinical Interview and PCL-R instruments. In the multiple sexual homicide group, there was a higher frequency of sexual sadism, voyeurism, and sadistic, antisocial, and schizoid personality disorders.

In Beauregard and DeLise⁷² article, comparing sexual murderers with non-homicidal sexual offenders found that murderers had a higher frequency of Schizoid and Borderline Personality Disorders. Additionally, they were significantly more likely to select victims, use weapons, and use illicit drugs and alcohol before the crime. A similar study by Langevin²⁴ comparing these two groups found that sexual murderers initiated crimes earlier, joined criminal groups, engaged in cruelty to animals, and showed a higher frequency of sadism, fetishism, voyeurism, collection of pornography, antisocial personality disorder, neuropsychological impairment, and learning difficulties.

The motivation of sexual murderers for the crime has been explored in some articles, mostly conducted in China. Those who mutilated victims were found to be

more motivated by sex than financial gain and more likely to have a previous conviction for sexual crime, according to Chan and Li⁶². Offenders motivated by sex, money, and anger were more likely to target unknown women, while those motivated by power and control were more likely to target partners, as per Chan *et al.*⁶⁷. Sexual homicides against women based on sex were verified by Chan and Li⁷¹.

Canadian sexual murderers and non-homicidal offenders were studied in an article by Chan and Beauregard¹⁸. Sexual murderers often selected and mutilated victims, had more deviant sexual fantasies, and admitted to the crime more easily when identified and arrested. They exhibited more paranoid, schizotypal, borderline, histrionic, narcissistic, obsessive-compulsive, and impulsive personality traits. They were frequently involved in exhibitionism, fetishism, frotteurism, homosexual pedophilia, and sexual masochism.

In the United Kingdom, Stefanska *et al.*⁷⁶ also addressed deviant fantasies in non-serial sexual murderers, comparing whether the sexual element and the act of killing were directly or indirectly associated and the level of injuries, according to the Homicide Injury Scale (HIS). Although no difference in mean scores was found, there was a direct association between the sexual element and the crime.

Similar themes were found in Koch *et al.*²² article, which compared the prevalence of psychiatric disorders in 166 sexual murderers and 56 non-murderers, using the Structured Clinical Interview for DSM Axis II Disorders (SCID-II) and PCL-R instruments. Sexual murderers were more frequently diagnosed with personality disorder (80.1% versus 50%), schizoid personality (16.3% versus 5.4%), sexual sadism (36.7% versus 8.9%), and sexual dysfunctions (21.7% versus 7.1%).

Partially, these findings also emerged in serial crimes. In Chan *et al.*⁵⁰ article, 73 single-victim sexual murderers were compared to 13 serial sexual murderers. Serial murderers were more likely to report deviant sexual fantasies, select and humiliate victims, and premeditate the crime. They showed more narcissistic, schizoid, and obsessive-compulsive traits, as well as sexual masochism, homosexual pedophilia, exhibitionism, and voyeurism.

Other articles with different study populations were found. In the US, Gacono *et al.*³³ analyzed 32 non-sexual aggressive psychopaths with 38 sexual murderers and 39 non-violent pedophiles on selected variables from the Rorschach test. Sexual murderers showed high levels of obsessive thinking and an inability to disengage from environmental stimuli. Huprich *et al.*³⁵ applied the Rorschach Oral Dependency Scale to 32 non-sexual aggressive psychopaths, 38 sexual murderers, and 39 pedophiles. The authors found a high degree of association between interpersonal dependency and aggression among sexual murderers. In Healey *et al.*⁴⁸ article, it was suggested that several behaviors at the crime scene overlap with the diagnosis of sexual sadism, capable of distinguishing between sexual offenders against women and sexual murderers.

Kerr and Beech⁵¹ published one of the few qualitative articles we identified, analyzing eight

individuals convicted of sexual homicide in the United Kingdom. The authors identified four significant themes to understand sexual homicide, attributed to revenge, psychic disorder, homicidal impulse, and emotional loneliness.

Two articles addressed the investigation and resolution of sexual homicides. In Sweden, Sturup *et al.*⁶¹ found similar percentages of solved sexual homicides (82%) and non-sexual homicides but noted that cases with a sexual component took longer to be resolved. In Canada, Chai *et al.*¹⁶ investigated patterns of victim body disposal in sexual homicides. In solved cases, the bodies were moved when the victim was a sex worker, and the body was hidden and in the prone position. In unsolved cases, body movement occurred when the victim was a sex worker, and the body was recovered outdoors.

Noteworthy articles focused on the victim-offender relationship. Oliver *et al.*³⁹ compared 58 sexual murderers and 112 sexual offenders. Sexual murderers were less likely to have relationships at the time of the crime and tended to select older victims. However, the authors found no differences in the Millon Clinical Multiaxial Inventory-III personality scales. Abrahams *et al.*³ found that the offender was more likely not to know the victim, who was generally older than the offender.

The gender issue was addressed in Chopin and Beauregard²⁹ article, comparing 100 male victims and 552 female victims of sexual homicide. According to the authors, gender played a significant role in offenders' behaviors, adapting strategies to overcome the risk of physical confrontation with male victims. In female victims, physical violence and resistance to the offender were strongly associated with sexual homicide⁶³.

The choice of the victim also involved a specific situation in an article. Morrison⁴⁰ presented a case report of workplace stalking followed by sexual homicide of a woman with multiple sharp-blunt injuries. The author highlighted the stalker called predatory as distinct due to its dangerous nature and engagement in sexual violence.

An article addressing racial aspects in sexual homicide was identified. Chan *et al.*⁴⁶ examined the influence of race and age on the victim-offender relationship in a sample from the Supplemental Homicide Reports, with data from 1976 to 2005. White sexual murderers were highly prone to killing people of the same race, while black offenders killed both black and white individuals.

The articles pointed out significant heterogeneity among sexual homicide victims, as well as the sexual acts committed and the lethal outcomes involved. Only one article dealt with multiple offenders and more than one simultaneous victim¹⁰. Chan⁷ and Chan *et al.*⁶⁶ articles pointed to the mutilation of the victim's body and acts involving vaginal penetration. According to Beauregard and Martineau⁸, vaginal intercourse occurred in 46.3% of sexual homicides, and anal intercourse in 16.3%. The victims were predominantly women (89.7%), white (62.8%), and with an average age of 27.2 years. Sexual homicide mainly occurred through beating (47.1%) and strangulation (41.7%). Similar results were found in Abrahams *et al.*³ article, with sexual homicide victims having a higher number of injuries and lethal outcomes due to strangulation or blunt trauma.

In the United Kingdom, Carter *et al.*⁵⁷ compared the crime scene in sexual and non-sexual homicides, finding that sexual crime victims were more frequently found at home, with the lower half of the body exposed, evidence of vaginal sexual acts, and extreme injuries and strangulation. Regarding post-mortem sexual acts, Higgs *et al.*⁵⁹ found no higher use of weapons or unknown victims in sexual homicides. In these cases, Chopin *et al.*⁷⁵ suggested four patterns of necrophilia in sexual homicide: preferential, opportunistic, experimental, and sadistic. Only preferential offenders killed victims to have sex with the corpses, while in other offenders, necrophilia was part of a deviant and secondary process.

Some articles also presented studies associating sexual homicide with paraphilic disorders. Piquerism was described by Pettigrew²¹ in a case where the offender used multiple stabbings for the sexual homicide of five male victims. A Canadian study by Beauregard *et al.*⁷⁷ with 662 sexual homicide cases compared the insertion of foreign objects into the victim's mouth, anus, or vagina with sexual homicides without insertion. In 84 cases (12.7%), foreign objects were inserted into the victim's body, more common when the offender had sexual dysfunction, sadism, when victims used alcohol or drugs before the crime, and when they were beaten. Post-mortem sexual acts and strategies to hinder the identification of the offender were more likely in cases of object insertion.

In the US, Koepfel *et al.*¹¹ compared a non-random national sample of 207 non-serial sexual homicides and 53 serial homicides, finding object insertion in 50 cases (19.2%), with a similar distribution in both groups and similar levels of sadism.

Although a significant portion of sexual homicides involves the use of weapons⁶⁷, the articles revealed that sexual murderers showed a preference for strangulation, asphyxiation, or beating^{8,12}. An exceptional situation was described only by Myers *et al.*⁴², with five cases of sexual homicide resulting from autoerotic asphyxiation, four in the US and one in Russia, all associated with the offender's sexual sadism. Only one article focused on the movement of the sexual murderer, suggesting that those involved in long routes tend to target sex workers and move the body after the crime, according to Martineau and Beauregard⁵⁶. Information on sexual homicides of female sex workers was presented by Chan⁷⁴.

A relevant number of articles were found on the recurrence of sexual homicide. In Germany, Hill *et al.*⁴¹ assessed 90 sexual murderers through Kaplan-Meier analysis, finding a 23.1% risk of violent sexual reoffending and an 18.3% risk of violent non-sexual reoffending. Violent reoffending was associated with the offender's young age at the first sexual crime.

In another study, Hill *et al.*⁴⁷ retrospectively examined the predictive accuracy of the PCL-R, Assessing Risk for Violence-20 (HCR-20), Sexual Violence Risk-20 (SVR-20), and Static-99, based on psychiatric reports. Like in other studies, total scores and subscales of the instruments were unable to predict sexual homicide reoffending^{36,41,47}. According to Busch *et al.*⁴³, low social maturity and previous convictions were predictors of reoffending risk. The article by Khachatryan *et al.*⁵² on

adolescent sexual murderers observed that the average sentence duration was 12 years and 2 months. After 30 years of conviction, half of them were reconvicted for non-homicide crimes. Chopin *et al.*⁷⁸ reinforced that adverse childhood factors constitute a risk for sexual homicide.

Chopin and Beauregard⁶⁹ article reinforces that sexual murderers present significant differences when compared to other murderers or non-homicidal violent sexual offenders, suggesting them to be a specific type of offender. The authors found that sexual murderers were more likely to have paraphilic disorders and sexual dysfunction, more engaged in social activities, and less likely to use psychoactive substances and engage in criminal activities. In the modus operandi, the unknown and surprised victim or victims approached through fraud were more frequent. Sexual murderers committed the crime more often in residences or entertainment venues. The weapons used were less likely to be removed from the crime scene and more likely to be recovered by the police.

We believe that a gender perspective should be incorporated into the study of sexual homicides, as a significant portion of cases involves female victims. According to Lucena and Tristán-Cheever⁷⁹, gender inequality has roots in colonialist patriarchy mixed with racism. In fact, a study by Monteiro *et al.*⁸⁰ indicates that femicide rates are higher among black women, although it is not possible to know how many of these deaths have sexual motivations.

CONCLUSION

Sexual homicides are less frequent lethal crimes. Male sexual offenders have shown to be a heterogeneous group, yet with various characteristics that differentiate them from other murderers, pedophiles, and sexual offenders. These perpetrators appear to target their crimes towards a heterogeneous group of adult victims, with particularities in the forms of lethal outcomes and the sexual acts committed. There is a high prevalence of psychiatric issues, behavioral disorders, and traumatic experiences during childhood within this group of homicide perpetrators.

Author Contributions

The authors Maria Vitória Barros Moreira (author 1), Tamires França Visoto (author 2) and Priscilla Rayanne E. Silva Noll (author 3) participated in the search and selection strategy for articles, and in writing the manuscript. The author Jefferson Drezett (author 4) participated in developing the research question, interpreted results, and drafted the manuscript. All authors read and approved the final manuscript.

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Resumo

Introdução: o homicídio sexual é definido como violência letal associada com elementos ou motivações sexuais, majoritariamente praticado por homens contra mulheres. Apesar de se tratar de crime de menor frequência, observa-se crescente interesse clínico e médico-legal por suas particularidades e características do agressor.

Objetivo: revisar a literatura científica sobre homens autores de homicídio sexual de vítimas adultas.

Método: Revisão sistemática com os MeSH (“Sex Offenses”[Mesh]) AND “Homicide”[Mesh]) nas bases do MEDLINE, LILACS, MENDELEY e SciELO, entre 1992 e 2023. Utilizou-se a estratégia PICO com população estudada (agressores sexuais masculinos), intervenção (homicídio de vítimas adultas), contexto (violência sexual) e desfecho (potencial relação entre as questões). As etapas de seleção e de análise dos artigos contou com dois pesquisadores independentes. Foram incluídos estudos originais, excluindo-se revisões, cartas ao editor, publicações em anais, livros e capítulos, teses e dissertações. Os artigos selecionados foram apresentados por metassíntese qualitativa.

Resultados: dos 70 artigos selecionados, 66 artigos (94,2%) adotaram métodos quantitativos, 2 (2,9%) desenho qualitativo e 2 (2,9%) relatos de caso. Encontramos 41 artigos (58,6%) conduzidos na América do Norte e 22 artigos (31,4%) na Europa, totalizando 63 artigos (90,0%). Outros cinco artigos (7,1%) foram da Ásia, um (1,4%) da África e um (1,4%) da Oceania. Em 52 artigos (74,3%) encontramos ênfase aos aspectos relacionados aos transtornos psiquiátricos, comportamentais ou psicológicos do agressor, o sadismo sexual, ou formas de violência sexual ou de desfecho letal empregadas.

Conclusão: homens homicidas sexuais têm características que os diferenciam de outros agressores homicidas ou daqueles que praticam violência sexual, orientando seus crimes para um grupo heterogêneo de vítimas adultas. Os estudos se concentraram nos transtornos psiquiátricos e comportamentais do agressor, assim como a relação com vivências traumáticas na infância.

Palavras-chave: homicídio, delitos sexuais, sadismo, psicologia criminal, vítimas de crime.

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