



## A nationwide forensic case-series of femicides in Italy – Part 1: Clues to the motives of the murder

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## ABSTRACT

Understanding the motives behind femicides is crucial to design effective prevention strategies and to support women's self-determination, free from threats to their mental and physical integrity.

We conducted a retrospective, multicenter forensic study involving 27 Italian Institutes of Legal Medicine, analyzing 1238 female homicides (1950–2023). Cases were classified as *femicide* or *non-femicide female homicide* according to the medico-legal definition of femicide as the murder due to the failure to recognize women's right to self-determination. Motives were categorized into 12 groups, and relevant anamnestic and circumstantial data were collected.

Of the 1238 cases, 410 were identified as femicides, 395 as non-femicides, and 433 were excluded for insufficient information. Femicides were most frequently driven by jealousy/rejection (n = 185; 45.1 %) and separation/divorce (n = 144; 35.1 %), often in the context of intimate partner violence or inability to accept the end of a relationship. Non-femicides were predominantly associated with the perpetrator's psychiatric disorder and/or drug addiction (n = 126; 31.9 %), violent aggression without gender-related motive (n = 69; 17.5 %), victim's illness (n = 63; 15.9 %), or economic reasons (n = 58; 14.7 %).

In the Italian context, most femicides stem from relational dynamics – particularly jealousy, rejection, and separation – whereas non-femicides are more often linked to psychiatric illness, substance abuse, or non-gender-related aggression. Incorporating these findings into clinical risk assessment protocols, especially in emergency and primary care settings, may help identify women at high risk and guide targeted prevention strategies.

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## 1. Introduction

Violence against women and girls is a widespread violation of human rights, rooted in gender inequality and discrimination, asymmetric power relations and detrimental social conventions [1]. Prevalence of this phenomenon is alarming: it is estimated that, worldwide, one in three women will experience physical and/or sexual violence over the course of her lifetime [1,2]. The United Nations Office on Drugs and Crime has defined femicide, also known as feminicide, as the gender-related murder of women and girls: femicides are usually anticipated by previous physical, sexual and/or emotional violence, hence this crime represents the lethal endpoint of a continuum of plural, overlapping, and interconnected expressions of gender-based violence [2]. The presence of gender-based violence is necessary to define a case as femicide, therefore, not all murders of women are femicides [2].

To overcome limitations due to the lack of homogeneity in definitions of femicide, Cecchi et al. (2022) recently suggested a shared medico-legal definition of femicide as “*the murder due to the failure to recognize women's right to self-determination.*” It means that the victim is killed because she had responded negatively to a demand by the killer or because she had different desires and beliefs from those of the aggressor

[3].

To end this scourge, several strategies have been proposed, including public health interventions to promote equity, education of children, enforcement of legal protections for women, development of a legal framework on femicide, as well as systematic collection and sharing of data [4]. Cecchi et al. (2023) suggested that, through interpretation of standardised data, it is possible to identify hallmarks of femicide, which might aid the distinction of femicide from non-femicide murders. This approach was successfully applied in a single centre study [5]. Identified markers, such as mechanism of injury or site of injury, could aid forensic pathologists differentiate femicides from non-femicide murders and provide prosecutors with additional elements for investigations. There is, however, a need to test the validity of such approach in larger and multicentre cohorts [5].

Despite these efforts, there is still an unmet need to understand and prevent femicide worldwide. Scientific knowledge of femicides suffers from insufficient documentation as well as difficulties in detection and inhomogeneities in reporting [6], with relatively few research on prevalence, motives, and dynamics of this type of murder.

The aim of this large multicentre study is to provide a detailed characterisation of motives underpinning femicides and non-femicide

female murders in Italy to highlight differences and dynamics of these two types of murders and, ultimately to optimise recognition and prevention strategies.

## 2. Methods

Twenty-seven Italian Forensic Institutes, following an invitation from the Forensic Institute of the University of Parma, agreed to contribute to the study. This collaboration led to the official establishment of the *Italian femicide working group of forensic pathologists* (IFW-GoFP). A standardised data collection form, adapted from Cecchi et al. [5], was sent to each institute and filled by two forensic pathologists who examined all autopsy reports, photographic surveys, and court and tribunal documents acquired from each Institute's archive related to murders that occurred after the year 1950. The two forensic pathologists were able to perform their issues adequately. Each institute reported cases where information was still available. Each selected case was converted into a number, then sent to the Institute of Parma and analysed by some of the authors.

Ethics approval was not required because the study was based on forensic autopsies for which consent could not be obtained. All data were received and analysed by the Institute of Parma in an anonymised version.

We classified the cases into femicide vs. non-femicide female homicides, according to the definition provided by Cecchi et al. [3]. We extrapolated the murder motives in each case, examined and finally grouped into the following: separation/divorce; jealousy/rejection; violent aggressor (aggressive temperament); sexual assault; unwanted pregnancy; victim's obstacle to aggressor (the victim's presence and/or will and desires as a female clearly conflicted with the killer's life plan); aggressor formally diagnosed with psychopathology/drug addiction; victim's illness; economic reasons; criminality ("crime-related murders"); involuntary manslaughter (unintentional homicide because the death of the victim was not intended); cultural causes.

To characterise the motives further, we also collected anamnestic data related to murders' motives.

When no sufficient information on the motives of the homicide was available, we excluded the cases *a priori*.

Descriptive statistics for the parameters detailed above are reported. Additional anamnestic and circumstantial data for each motive category are also provided.

## 3. Results

We evaluated a total of 1238 female homicides. Of those, 410 were classified as femicides and 395 were classified as non-femicide female homicides, 433 cases were excluded for lack of sufficient information.

Descriptive statistics of murder motives subdivided by group (femicide vs. non-femicide female murders) are reported in Table 1.

**Table 1**  
Characteristics of femicide and non-femicide killings by motives for the murder.

Motive	Femicide (yes/no)	Non-femicides (yes/no)
separation/divorce	144/266	0/395
jealousy/rejection	185/225	2/393
violent aggressor	47/363	69/326
sexual assault	11/399	0/395
unwanted pregnancy	6/404	0/395
victim's obstacle to aggressor	9/401	21/374
psychopathic/drug addicted aggressor	0/410	126/269
victim's illness	0/410	63/332
economic reason	1/409	58/337
Criminality	0/410	48/347
involuntary manslaughter	0/410	8/387
cultural causes	7/403	0/395

Additional circumstantial and anamnestic data are reported in Table 2 and Table 3. To ensure protection of privacy and avoid potential identification of individual cases, we removed information related to single occurrences. In the present work, we report additional data only for events that occurred in at least two cases, thereby preventing the unique identifiability of any specific case.

Femicides cases (n = 410) were classified as follows (Table 1): jealousy/rejection (n = 185): cases in which the murderer acted due to jealousy, suspicion or confirmation of infidelity, romantic rejection, or perceived loss of affection or attention from the victim, sometimes linked to challenges to male dominance; separation/divorce (n = 144): cases in which the murderer does not accept the end of the relationship or the threat that the relationship would end; violent aggressor (n = 47): cases in which the perpetrator had a history or propensity for physical violence and acted due to an aggressive temperament, often in the context of recurrent conflict or coercion; sexual assault (n = 11): cases in which the murder occurred during or immediately after an acted or attempted sexual assault, motivated by sexualized aggression and control; victim's obstacle to aggressor (n = 9): cases in which the victim's presence, actions, or decisions directly conflicted with the perpetrator's personal goals or desires, leading them to perceive her as an obstacle to be removed. Other motives included: cultural causes n = 7; unwanted

**Table 2**  
Circumstantial and anamnestic data, femicide cases.

Separation / Divorce (n = 144)	
Circumstantial and anamnestic data	Nr. of cases
femicide and suicide of the killer	18
femicide and attempted suicide of the killer	14
previous episodes of intimate partner violence	13
jealousy over new relationship	12
femicide, suicide of the killer, and murder of another person	5
femicide and murder of another person	4
leaving home: woman tells ex-partner she wants to get away from him	4
economic difficulties related to separation	4
murder committed following sexual rejection attempting to reconcile in the context of a couple crisis	2
murderer does not accept the end of relationship or the threat that relationship will end, without further specification	68
Jealousy / Rejection (n = 185)	
Circumstantial and anamnestic data	
femicide and suicide of the killer	11
previous episodes of intimate partner violence	8
unrequited love (victim not prostitute)	6
unrequited love (victim prostitute)	4
murder of the woman and bodily harm against her new partner	2
jealousy / rejection without further specification	154
Violent aggressor (n = 47)	
Circumstantial and anamnestic data	
previous episodes of intimate partner violence	21
role reversal in marriage	7
the murderer kills the woman because he believes she is supporting the murderer's partner to leave him	4
femicide and suicide of the killer	3
the murderer wanted to move to a foreign country while the victim did not	2
murdered prostitute	2
violent aggressor without further specification	8
Victim's obstacle to aggressor (n = 9)	
Circumstantial and anamnestic data	
lover wanted to make the relationship official	6
murderer killed wife because she was an obstacle to his new relationship	3
Cultural causes (n = 7)	
Circumstantial and anamnestic data	
killed because she had turned away from her religion and had become 'westernized'	3
cultural causes, without further specifications	4

**Table 3**  
Circumstantial and anamnestic data, non-femicide cases.

Violent aggressor/aggressive temperament (n = 69)	
Circumstantial and anamnestic data	Nr. of cases
femicide and suicide of the killer	6
arguments between people living in the same block of flats	5
altercations with a person under the influence of alcohol	5
previous episodes of intimate partner violence	4
femicide, suicide of the killer, and murder of another person	4
disputes between spouses	4
femicide and murder of another person	3
person held responsible for the murderer's current relationship crisis	3
futile motives	3
woman killed because attempted to settle an argument between spouses	3
daughters killed in connection with a concomitant marriage crisis	3
elder abuse	2
violent aggressor without further specification	24
Victim's obstacle to aggressor (n = 21)	
<i>Circumstantial and anamnestic data</i>	<i>Nr. of cases</i>
the murderer perceives the victim as an intrusion into his life and as an obstacle to the realization of his dreams	12
the wife kills her husband's lover (extramarital affair)	4
ex-girlfriend who is killed because she stalked her ex-boyfriend	3
revenge against sex offender relative	2
Psychopathic/drug addicted aggressor (n = 126)	
<i>Circumstantial and anamnestic data</i>	<i>Nr. of cases</i>
killer suffering from depressive syndrome	22
drug addiction (requesting money for the purchase of drugs: n = 3)	18
femicide and suicide of the killer	15
killer suffering from nonparanoid schizophrenia	11
killer suffering from paranoid schizophrenia	7
personality disorders	4
previous episodes of intimate partner violence	4
femicide and attempted suicide of the killer	2
femicide and suicide of the killer years later	2
femicide and murder of another person	2
delusional belief in the transmission of sexually transmitted diseases to the partner as a result of cheating	2
psychopathic/drug addicted aggressor without further specification	37
Victim's illness (n = 63)	
<i>Circumstantial and anamnestic data</i>	<i>Nr. of cases</i>
femicide and suicide of the killer	20
dementia of the woman	10
psychopathy of the woman	6
irreversible degenerative pathology of the woman	5
congenital disabilities of the woman	4
femicide and attempted suicide of the killer	2
femicide and murder of another person	2
severe walking difficulties of the woman	2
compassionate murder without further specification	12
Economic reason (n = 58)	
<i>Circumstantial and anamnestic data</i>	<i>Nr. of cases</i>
economic difficulties	6
money lent but never returned	5
femicide and suicide of the killer	3
non-payment of the employee	2
economic reason without further specification	42
Criminality (n = 48)	
<i>Circumstantial and anamnestic data</i>	<i>Nr. of cases</i>
robbery	33
mafia	3
settling of scores	3
criminal organization	2
kidnapping for extortion followed by killing	2
criminality without further specification	5
Involuntary manslaughter (n = 8)	
<i>Circumstantial and anamnestic data</i>	<i>Nr. of cases</i>
erotic asphyxia	2
involuntary manslaughter without further specification	6

pregnancy n = 6; economic reason n = 1; psychopathic/drug addicted aggressor n = 0; victim's illness n = 0; criminality n = 0; involuntary manslaughter n = 0.

As shown in Table 2, in 38 out of 144 of the femicidal cases related to separation/divorce, more than one victim was killed, whereas the perpetrator attempted to/took his own life in more than one fourth of cases (homicide-suicide: n = 18; homicide-attempted suicide: n = 14; multiple homicide-suicide: n = 5; multiple homicide + attempted suicide + subsequent suicide acted in prison: n = 1); in 13 cases, episodes of intimate partner violence had been reported prior to the murder. In 10 out of the 185 femicidal cases related to jealousy/rejection, unrequited love was documented (victim prostitute n = 4, victim non prostitute n = 6). In 21 out of the 47 femicidal cases related to violent aggressor, previous episodes of intimate partner violence were reported.

Non-femicides cases were classified as follows (Table 1): psychopathic/drug addicted aggressor (n = 126): cases in which the murderer had a diagnosed psychiatric disorder, substance abuse, or both, which contributed significantly to the homicidal act; violent aggressor (n = 69): cases in which the perpetrator displayed a history or tendency for physical aggression, often arising from arguments, altercations, or violent temper, but without gender-related motives; victim's illness (n = 63): cases in which the victim suffered from severe physical or mental illness, sometimes associated with so-called "compassionate homicide" or "mercy killing" committed by close relatives; economic reason (n = 58): cases in which the homicide was motivated by financial disputes, debts, inheritance issues, or perceived economic burden posed by the victim; criminality (n = 48): cases in which the killing occurred during or as a result of criminal activities, such as robbery, mafia-related actions, or other organized crime. Other motives included: victim's obstacle to aggressor n = 21; involuntary manslaughter n = 8; jealousy/rejection n = 2; separation/divorce n = 0; sexual assault n = 0; unwanted pregnancy n = 0; cultural causes n = 0.

As shown in Table 3, in the non-femicidal category of violent aggressor (n = 69) we found cases of arguments between people living in the same block of flats (n = 5), altercations with a person under the influence of alcohol (n = 5), abuse of elderly people (n = 2), homicide of person thought to be responsible for the murderer's current relationship crisis (n = 3), quarrels for trivial reasons (n = 3), a person who was killed while attempting to settle an argument between spouses (n = 3), disputes between spouses, in absence of further information (n = 4), daughters killed in connection with a concomitant marriage crisis (n = 3), previous episodes of intimate partner violence (n = 4), an acted or attempted suicide (n = 12), and multiple homicides (n = 9).

In cases of non-femicides classified as "victim's obstacle to aggressor" (n = 21), we found cases in which the murderer perceived the victim as an intrusion into his life and as an obstacle to the realisation of his dreams (n = 12), homicides of ex-partners who, despite the relationship having ended, continued to persistently search for their ex-boyfriends (n = 3), cases pertaining to extramarital affairs (n = 4), and revenge against sex offender relatives (n = 2).

In non-femicides cases of "psychopathic / drug addicted aggressor" (n = 126), an acted or attempted suicide was described in 19 cases, multiple homicides in two cases, and previous episodes of intimate partner violence in four cases. Various psychiatric conditions were documented (depressive syndrome: n = 22; drug addiction: n = 18; non-paranoid schizophrenia: n = 11; paranoid schizophrenia: n = 7; personality disorders: n = 4). In two cases delusional belief in the transmission of sexually transmitted diseases to the partner as a result of cheating were described.

In non-femicides cases of "victim's illness" (n = 63), the following pathologies affecting victims were reported: dementia (n = 10), psychopathy (n = 6), irreversible degenerative pathology (n = 5) congenital disability (n = 4), and severe walking difficulties (n = 2). An acted or attempted suicide was described in 23 cases, and multiple homicides in three cases.

The category of "economic reasons" (n = 58) in non-femicides was

further explained as follows: an acted or attempted suicide was described in five cases, multiple homicides in two cases. Various kinds of motivation were invoked: economic difficulties (n = 6), money lent but never returned (n = 5), and non-payment of the employee (n = 2).

Results show 48 crime-motivated non-femicides, also known as “crime-related murders”. In most cases, the homicide occurred as the consequence of a “robbery gone wrong” (n = 33). Other described crimes were mafia (n = 3), settling of scores (n = 3), criminal organization (n = 2), and kidnapping for extortion (n = 2). Our cohort also showed eight non-femicidal cases related to involuntary manslaughter.

#### 4. Discussion

The number of women and girls intentionally killed in 2022 was almost 89,000: this is the highest annual number recorded in the last 20 years [7]. The prevalence of this unacceptable phenomenon is increasing worldwide, with some alarming data from several European and non-European countries [8–11].

The White Book on Male Violence against Women, published by the Italian Department for Equal Opportunities of the Presidency of the Council of Ministers, in November 2024 recently highlighted that the absence of a definition of femicide is reflected in the absence of data. The data is ambiguous, because each authority responsible for collecting it uses its own definition, which makes the true extent of the phenomenon uncertain [12].

Thus, knowing the characteristics and the motives of a murder allows to better delineate its cascading effects. From a preventive perspective, ending these tragic events also requires delving into the motives that led to the unacceptable act of violence [13]. Prevention, recognition, and proper management of femicide cases require close cooperation between legal medicine, police forces, administrative authorities, and clinical medicine. Such interdisciplinary collaboration can ensure comprehensive data collection, timely identification of risk factors, and coordinated interventions aimed at protecting women at risk. Scientific research in this field therefore makes it possible to support projects such as the VIPROM (Victim Protection in Medicine), which aims to provide training opportunities for frontline health professionals in several European countries on the topic of victims of domestic violence [14].

Precise and reliable estimates of the global prevalence of femicides are still unavailable. Indeed, there are cultural and bureaucratic resistances to recording women’s deaths as “femicide” in official statistics, due to several factors, such as: denial and disinterest in the problem, underestimation of its magnitude, and lack of resources to make the issue visible [15]. The lack of variables and measures in current global data collection tools is critical, because accurate information is crucial for defining appropriate femicide prevention strategies [16].

Growing evidence in scientific literature supports the multifactorial nature of femicide crimes: underlying causes appear mainly related to elements of cultural, individual, educational, social, and economic spheres [17,18]. The present work documented, in the Italian context, 12 categories of motives that drive the homicidal act on the woman.

##### 4.1. Femicides

In the femicide cases analysed, the predominant motives for the murder were jealousy/rejection, separation/divorce, and violent aggression. Together, these accounted for over 90 % of all cases, while the remaining motives were considerably less frequent. Consequently, the recurrence of such circumstances represented by far the most significant risk factors in the occurrence of this brutal form of violence. The remaining nine motives for the murder accounted for a minority of cases.

###### 4.1.1. Femicides: Separation/divorce

In our cohort, approximately one-third of all femicides were associated with this murder motive. This proportion is more conspicuous than

the already substantial 18 % documented by the 2020 UK Femicide Report [19].

Numerous studies recognise how separation/divorce are risk factors for violence towards the ex-partner, since it has been suggested that unhealthy psychological adaptations to interpersonal loss, linked to severe distress, anger and sadness, can lead to a tendency to automatically approach the ex-partner [20]. In addition, post-separation abuse can take place. This is a pattern of intimidation towards the former intimate partner including legal and economic abuse, threats to children, isolation and discreditation of victims, as well as harassment and stalking [21,22]. These features are often linked to the perpetrator’s conception of the woman: she is regarded as an object that, if it cannot belong to the murderer, shall not belong to anyone else [23,24].

The time of disclosure of the intention to divorce and the first year following separation are associated with the highest risk of experiencing violence and femicide [25–27]. Femicides may also be linked to possible mismanagements of the divorce process, with men potentially putting pressure on women and resisting the separation [28], to the point that the number of women killed at the time of divorce is increasing year by year [29].

###### 4.1.2. Femicides: Jealousy/rejection

The majority of femicides cases in our casuistry were motivated by jealousy/rejection. These results are consistent with previous studies: jealousy, sexual rejection, and suspicion of infidelity have been reported by many as major contributors and pathways to femicides [24,27,29–32].

In intimate relationships, jealousy constitutes a risk factor for the enactment of violent behaviours [19]. Reasons for jealousy may refer to suspicion or confirmation of infidelity, e.g. partner returns home late or sexually denies the man. Other triggers include reduced attention from the partner (e.g. because they are perceived to be focussing excessively on work) and perceived challenges to male supremacy (e.g. if the woman earns more than the man) [19].

###### 4.1.3. Femicides: Violent aggressor

We found 47 femicide cases related to violent aggressor and, in about half of these cases, previous episodes of intimate partner violence were reported. This is in line with previous studies which estimated that women identified in the criminal justice system as victims of intimate partner violence have a 4-fold increased risk of subsequently suffering intentional injury or violent death [33].

Perhaps surprisingly, higher intimacy can increase the risk of partners’ quarrels, resentments, misunderstandings, and frustrations, which in the most extreme cases become risk factors underlying escalation to femicides [34]. The murder of a partner can be the extreme culmination of a condition of relational malaise and constant quarrelsomeness that, in most cases, tends to stabilise into a dysfunctional relationship, which can be harmful not only to the couple, but also to the entire family unit [34,35]. Several negative emotions fill the relational spaces of the couple, structuring themselves over time and going to determine a “burning hate”, that is, a combination of anger, conflict, hatred, quarrelsomeness, disgust, and devaluation of the other person [36].

Seven of the cases we analysed showed a form of role reversal in marriage, i.e. the spouse did not act according to his or her gender-based role, being at odds with social gender expectations [37]. Vink et al. (2023) found that heterosexual relationships with reversed roles, with women having higher social status than their male counterparts, are more precarious. In those circumstances, both spouses tend to be regarded negatively and the subjective experience of role reversal by men and women is associated with lower satisfaction in the relationship [38]. Thus, role reversal in marriage can be a risk factor to couple dissatisfaction, which, in extreme cases, can lead to violent behaviour.

###### 4.1.4. Femicides: Other motives

Only relatively few cases of murder were related to an acted or

attempted sexual assault. Sexual femicide can be considered the most misogynistic form of violence in which women are considered mere objects of control [39]. It combines sexualised aggression, contempt, entitlement, predatory attitudes, psychological and physical domination, and vindictive interests [40]. Zara et al. (2018) found that sexual femicides present a distinctive pattern with victims more likely to be unidentified, murder motives more likely to be antisocial and/or sexually deviant, crime more likely to take place in secluded locations, and perpetrators more likely to use improper weapons and fleeing the crime scene. Sexual femicides show similarities with rape, particularly regarding relation between victim and perpetrator as they tend to have a superficial relationship or being involved in a short-term relationship [41].

A small proportion of cases is related to unwanted pregnancy: the woman did not want an abortion, while the man did not want the child. The risk of intimate partner violence is known to be exacerbated during pregnancy and the puerperal period [42]. Soares et al. (2024) recently published an integrative review showing that a significant proportion of homicides during pregnancy and postpartum period are femicides [43,44]. In states where abortion is not legal, such as Argentina, femicide can occur in pregnant women who are unable to have an abortion and continue to be abused by their partners. Therefore, legalising abortion – as in Italy since 1978 – could contribute to contain the rates of violence against pregnant women [45].

In our cases, the category of “victim’s obstacle to aggressor” was introduced to emphasise cases in which the victim’s presence and/or will and desires as a female clearly conflicted with the killer’s life plan and triggered the murder. Nine cases were included in this category. Six were extramarital affairs motivated by the victim’s wish to make the relationship official. In three cases, the murderer killed his wife because she was an obstacle to his new relationship.

In only one case, economic reasons were identified as femicide, and the case appeared to be rooted in gender role stereotypes [46].

Seven cases of femicides primarily related to cultural causes were identified. In three cases the motive was related to the victim having turned away from her religion and becoming ‘westernised’. All these cases refer to foreign people, belonging to countries where a different culture is predominant. The use of religion to justify power relations and control could be rooted also in culture and tradition [47], and a cultural perspective of femicides ought to be applied to all femicides. It also enables a better understanding of homicides committed in the name of ‘honour’, since in these cases homicide follows actual or alleged adultery, homosexuality, divorce, sexual violence or refusal to marry [17]. Cultural background assessment is crucial for analysing the complex relationship between femicide and social issues such as masculinity and patriarchy, the role of family and honour, and human trafficking [18,48].

#### 4.2. Non-femicides

In non-femicide cases, the prevalent motives for the murder were the following five: violent aggression, the presence of a psychopathic or drug-addicted aggressor, the victim’s illness, economic reasons, and criminal activity. These motives together accounted for over 90 % of all cases. In particular, the category of “psychopathic / drug addicted aggressor” was the most represented category of non-femicides female murders, and often perpetrated by sons against their mothers. Indeed, contrary to popular belief, femicides are not typically perpetrated by individuals with psychiatric disorders [18], this is reflected in our cohort as well. The category of “victim’s illness” in non-femicides is analogous to the so-called “*compassionate homicide*” or “*mercy killing*”, in which mostly the husband kills out of compassion towards his wife. Compassion is associated with a strong identification with or sympathy for a loved one in severe suffering [49]. Therefore, compassionate motivations can strongly influence the moral character of the crime. This kind of crime is generally very rare in homicides of men [14].

#### 5. Limitations

The major limitation of this study is the retrospective nature of the analysis leading to variability of available data and missing information. For this reason, 433 cases had to be excluded, whereas other included cases had relatively fewer pieces of information compared to others. As in other forensic applications, such as age progression techniques [50–53], systematic and standardized documentation plays a crucial role in retrospective investigations. This limitation could be overcome by future prospective studies utilising shared standardised methods of forensic investigation and autopsy of female homicide cases.

#### 6. Conclusions

To the best of our knowledge, this is the first study to examine motives of femicide and non-femicide murders through a multi-centre collaboration in Italy. Our results show that most femicides were motivated by separation/divorce and jealousy/rejection, whilst non-femicide female murders were mainly related to psychopathology and/or drug addictions of the aggressor.

Findings of the present study could be of considerable relevance to health care providers assisting female victims of violence (or at risk of violence). Identification of the circumstances most frequently associated with the occurrence of femicide, such as jealousy, rejection, and/or the fact that the aggressor could not accept the end of a relationship or the threat that the relationship would end, should be systematically investigated, and women should be informed of such scientific evidence and of the risk of violence and femicide associated with these circumstances.

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#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### Data availability

All relevant data are within the paper.

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