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Suicide identification during on-site inspection. Proposal and application of an interpretative method for death scene investigation

Sindi Visentin[a,*], Luca Massaro[b], Guido Viel[a], Giovanni Cecchetto[a], Massimo Montisci[a]

[a] Legal Medicine and Toxicology, University-Hospital of Padova, 35121, Padova, Italy
[b] Via degli Artigiani 4, 35042 Este, Padova, Italy

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ABSTRACT

Death scene investigation (DSI) is critically important for the identification of the manner of death. The present study aims to present a scoring system for the correct framing of a case as a suicide starting from the DSI and its preliminary application. The method is based on five items: (1) statistical frequency of the method adopted; (2) victim's history of mental illness; (3) circumstantial data; (4) number of means; (5) compatibility of means and injuries with suicidal dynamics; and the application of a correction factor if suicide risk indicators are present. We blindly analyzed 180 cases of violent deaths equally divided into suicides, homicides and accidental deaths and the results obtained were compared with the established dynamics of death. The proposed method has proven to be efficient in the identification of suicide at the DSI, but further on-site studies making use of a wider number of cases is necessary.

1. Introduction

The distinction between death due to suicide, murder or accident has always been a subject of great interest in forensic medicine and the death scene investigation is critically important to identify the real dynamics of the facts.

The ambiguity of some scenarios, the complexity of the death scene and the range of information that is collected during the on-site inspection may mislead the forensic expert and lead to a vision of the event that can be strongly influenced by the preparation and the initial orientation of the medical examiner [1–5], particularly in cases of suicide that have uncommon features. The standardization of this phase is therefore of crucial importance for the early identification of the dynamic of the facts [1,6].

A previous study has focused on the possibility of identifying cases of "typical suicide" through an interpretative analysis during the on-site inspection [7], proposing a method based on the investigation of five main areas and the use of a scoring system, aimed at optimizing the study of the "body found in", particularly in cases of equivocal death [9].

This approach permits the conversion from a negative diagnosis, based on exclusion of reliable elements which might ascribe the death to murder or accident, to a positive diagnosis of suicide, of course within the range of parameters of scientific probability, based on the presence of elements which probably point to suicide.

This is important for the correct initial framing of the death scene, without any expectation of substituting the judicial autopsy and all the other post mortem ascertainments that are necessary to confirm the initial hipotesis.

The dual aim of this study is to create a detailed interpretative method of analysis of the death scene to be used by the medico-legal expert, which allows an objective framing of the case and the early identification of those cases probably attributable to self-induced death and, secondly, to test this method and its efficacy on our case studies.

2. Materials and methods

2.1. The death scene interpretative method

The method is based on the assignment of a "*partial score*" from 0 to 2 to each of the five areas/items that have to be investigated, which are: (1) statistical frequency of the suicidal method adopted by the victim, (2) victim's personal history of mental illness, (3) consistency of the crime scene evidence with a suicidal dynamic, (4) number of means adopted by the victim, and (5) compatibility of means and injuries with suicidal dynamics; where 0 is assigned to the typical characteristics of a suicidal dynamic, 1 to slightly atypical characteristics, and 2 to atypical features.

* Corresponding author.
E-mail address: sindi.visentin@gmail.com (S. Visentin).

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A "*correction factor*" (−1) can be applied in case of presence of indicators of suicide risk.

To each case corresponds a "*total score*", from 0 to 10, given by the arithmetic sum of the *partial scores* and, eventually, the *correction factor*, which imply the inclusion whitin a "*category*" of probability of a case of suicide: *typical suicide* (0–2), *atypical suicide* [3–8] or *death incompatible with suicide* [9,10].

2.1.1. Statistical frequency of the suicidal method adopted by the victim (Table 1)

The statistical frequency of the method adopted for suicide varies considerably from country to country and with the gender of the victim [9,10]. For those reasons, the proposed method distinguishes on the basis of sex and of the country of origin, assigning a score between 0 and 2 on the basis of the statistical frequency of choice of method of commiting suicide.

The assignment of score 0 to those methods with a frequency greater than 15% is proposed; 1 for those with a frequency between 10% and 15% and 2 to all the others, according to the principle that the less often the type of dynamics and methods of suicide are statistically represented, the greater the characteristics of atypical suicide are.

The percentage that determines the score may be revised over time in relation to the statistical variation in prevalence/incidence of suicidal method registered over the years in each specific country.

2.1.2. Victim's personal history of mental illness (Table 2)

One of the most significant risk factors for suicide is the presence of psychiatric disorders [11–14]. The suicide risk among mental health patients is even 12 times grater than the general population [15] and psychological autopsies established that more than 90% of completed suicides have suffered from co-morbid mental disorders [11,12,16].

The diseases most frequently associated with suicide are mood disorders (depressive disorders and bipolar disorders [17,18] schizophrenia, drug addiction and alcoholism, sometimes associated with specific neurobiological abnormalities [19]. Overall 30–90% of all suicides have suffered from mood disorders preceding the fatal act [20,21], with a strong association between major depression and suicide [22,23].

Also drug addiction and alcoholism lead to a high risk of suicide [24]. Among alcoholics, the lifetime risk of suicide is about 10–15% [25,26]. Depression and/or alcoholism were comorbid in 85% of suicides [27–30].

Schizophrenia and some personality disorders have also been demonstrated as risk factors for suicide (lifetime risk of suicide of 5% in schizophrenic [31,32], and 10% in borderline and antisocial personality disorders [33,34].

On the basis of these statistics, it was decided to assign a score 0 in cases of disorders like schizophrenia, borderline or antisocial personality, and in cases of mood disorders, drug addiction or alcoholism; a score of 1 when there is the suspicion of substance abuse and for those with a history of mood disorders or former addiction. The score of 2 was assigned in case of absence of the above-mentioned diseases or in the case of lack of information.

Table 1
First item—partial score corresponding to the method adopted by the victim, based on its statistical frequency as a suicidal method.

1) Statistical frequency of the suicidal method adopted by the victim		
Partial score	Method (male)	Method (female)
0	Frequency >15%	Frequency >15%
1	10 < frequency ≤ 15%	10 < frequency ≤ 15%
2	Others (frequency <10%)	Others (frequency <10%)

Table 2
Second item—partial score corresponding to the victim's personal history of mental illness.

2) Victim's personal history of mental illness	
Partial score	History of mental illness
0	At least one between: - mood disorders (depression, bipolar disorder, etc.) - drug addiction - alcholism - personality disorders with high risk of suicide (borderline, antisocial) - schizophrenia
1	At least one between: - former drug/alcohol addiction - history of mood disorders - drug abuse
2	Exclusion from the score 1 and 2 or lack of information

2.1.3. Consistency of the death scene evidence with suicidal dynamics (Table 3)

Evidence collected at the death scene is one of the key points for the early identification of suicides. Three eventualities are reported, sometimes essential in the reconstruction of a suicidal dynamic. The first, probably the most important, is the discovery of the weapon or of elements necessary for the performance of the hypothetical suicide near the cadaver [35] (for example, firearms, knives, empty pharmaceutical confections or substances used for poisoning, a chair or other raised element in case of complete hanging, etc.). The second and the most intuitive eventuality is the detection of a suicide note or farewell message, in which suicidal ideation is reported, or the victim apologizes for his action (even if only a minority of the victims, between 3% e 43%, leave suicide notes [36–39], or the presence of ordered personal effects of the victim [40] (close to the body or, in the case of drowning or precipitation, in the place where the victim is suspected to have put his idea into practice). The third eventuality is absence of signs of a struggle, or of forced entry in enclosed places. For these reasons, the partial scores of 0, 1 and 2 have been assigned.

Table 3
Third item—partial score corresponding to the consistency of the crime scene evidence with a suicidal dynamic.

3) Consistency of the crime scene evidence with a suicidal dynamic	
Partial score	Findings
0	All of these - the presence of the weapon or elements necessary for the performance of the hypothetical suicide around the corpse - suicide note or farewell message or finding of the ordered personal effects of the victim - absence of signs of a struggle (or burglary as regards enclosed places)
1	Presence of the weapon or the elements necessary for the implementation of the hypothetical suicide in the vicinity of the cadaver + at least one of the following: - absence of disorder - presence of open windows and doors (indoors) or open space
2	Exclusion from the score 0 and 1

Table 4
Fourth item—partial score corresponding to the number of means.

4) Number of means	
Partial score	Number of means
0	- absence of injuries to which death could be attributed - one
1	- two
2	- >two - abrasions, escoriations and contusions not attributable to precipitation

2.1.4. Number of means (Table 4)

The use of multiple means for committing suicide often increases the difficulties in differentiation between suicide and homicide. Many studies have labeled those cases with the name "complex suicide" [41–46], that is consensually defined as the use of more than one method to induce death. According to statistical evaluations, up to 5% of all suicides can be classified as complex suicide [47–50]. Being the most common occurrence, the score 0 is assigned to cases where only one method is adopted or in case of absence of injuries to which death could be attributed (where the differential diagnosis are poisoning death). Score 1 is assigned when two suicidal methods are adopted (for example, wrist cutting and falls from heights, poisoning and hanging, etc.) and score 2 in the case of adoption of more than two methods or in case of presence of bruising and excoriations on the cadaver not attributable to precipitation.

2.1.5. Compatibility of means and injuries with suicidal dynamics (Table 5)

In many cases of violent death the body injury pattern is critically important for the differential diagnosis between suicide, murder and accidental death. The proposed score identifies typical characteristics of a suicidal dynamic, differentiating them based on the methods adopted by the victim. Score 0 implies that the injuries are typical for suicide, value 1 indicates that injuries are considered on average compatible with suicide and 2 poorly compatible. In those methods where the injury pattern analysis does not usually help in the differential diagnosis during the on-site inspection, like rail crashes [51], car accidents [52], precipitation, or self-incineration [53], score 2 is assigned.

In firearm suicides the parts of the body commonly affected are the mouth, the temple and the chest (precordial region) in case of short barrel weapons, while in the case of long-barreled weapons the preferred areas are the chin and the abdomen [54–59]. The direction of the shot is commonly bottom-up, with the use of the dominant arm [60]. In gunshots to the head right-handed subjects prefer the use of the right hand, and left-handed subjects the left [61,62]. Gunshot inlet wounds are usually those of contact or close range [63] and the presence of gunpowder residues on the victim's hand means that the victim was involved in the shooting [64], which is why it is often a crucial element for the medico-legal identification of suicide cases, such as the presence of blood splashes on the hand used for the shot.

Suicidal incised wounds are frequent in the inner surface of wrists and forearms (wrist slashing) or on the neck (throat cutting); while stab wounds are commonly in the region of the heart, neck or abdomen [65–67], preceded by the denuding of the part of the body affected [68,69] and are frequently repeated, parallel and close to each other. Commonly, hesitation marks are present, thin and superficial, symmetrical with respect to the deeper injuries [70]. Conversely, in cases of murder, injuries

Table 5
Fifth item—partial score corresponding to the compatibility of means and injuries with a suicidal dynamic.

5) Compatibility of means and injuries with a suicidal dynamic	
Partial score	Features
Drowning	
0	At least one among: - related injuries (e.g. wrist slashing) - absence of injuries - self-tied knots or weights
1	Association with ecchymosis and bruising or other not lethal injuries
2	Exclusion from the score 0 and 1
Firearms	
0	All of these: - typical localization—short barrel weapons: mouth, temporal and precordial regions - ong-barreled weapons: chin and abdomen - contact or close range gunshot wounds - direction bottom-up - use of the right hand in right-handed subjects, of the left hand in the left-handed - presence of gunpowder residues and/or blood splashes on the victim's hand
1	Typical localization + at least one among: - contact or close range gun shotgun wounds - direction bottom-up - use of the right hand in right-handed subjects, the left hand in the left-handed
2	Exclusion from the score 0 and 1
Bladed weapons	
0	All of these: - typical localization (*incised wounds*: inner surface of wrists and forearms, neck; *stab wounds*: heart region, neck, abdomen) - hesitation marks - no damages to clothes - parallel injuries
1	Typical localization + at least one among: - hesitation marks - no damages to clothes - parallel injuries
2	At least one among: - defensive wounds - chop wounds - no typical localization - exclusion from the score 0 and 1
Hanging	
0	All of these: - complete hanging - oblique, discontinuous, excoriated, unevenly deep ligature furrows in the neck - absence of other injuries (with the exception of wrist slashing)
1	Oblique, discontinuous, excoriated, unevenly deep groove in the neck + at least one between: - incomplete hanging - no petechiae
2	At least one among: - other injuries - not excoriated ligature furrows

Table 5 (*Continued*)

5) Compatibility of means and injuries with a suicidal dynamic	
Partial score	Features
	- exclusion from the score 0 and 1
Smothering	
0	All of these: - presence of objects suitable to cause a simultaneous forced occlusion of mouth and nose still on the body - absence of injuries in the inner part of the cheeks and of the lips and absence of ecchymosis and excoriations of the skin on the nose and the mouth - absence of injuries possibly due to struggle
1	Presence of objects suitable to cause a simultaneous forced occlusion of mouth and nose still on the body + At least one between: - injuries in the inner part of the cheeks and of the lips - ecchymosis and excoriations of the skin on the nose and the mouth
2	- presence of injuries possibly due to struggle - exclusion from the score 0 and 1
Poisoning	
0	- association with wrist slashing or other suicidal method
1	- absence of injuries
2	- exclusion from the score 0 and 1
Strangulation	
0	All of these: - horizontal, continuous, excoriated and equally deep ligature furrow - knotting - absence of other injuries (with the exception of wrist slashing)
1	All of these: - horizontal, continuous, excoriated and equally deep ligature furrow - multiple revolutions
2	At least one between: - association with other injuries - semicircular skin lacerations possibly attributable to fingernails and scratches on the neck - exclusion from the score 0 and 1

present a disorderly distribution [71] and are frequently associated with defense injuries located on the upper arms, instinctively outstretched to protect vital parts [72,73]. Chopping injuries are extremely rare in suicide, observed in alienated people and made by self-inflicted injuries on the top of the head [74,75].

Referring to deaths due to asphyxia, hanging is a typical method used by suicides. Oblique, discontinuous and unequally deep ligature furrows are the most important types of evidence [76,77], even if it is present in simulated hangings or cadaver suspension. In those cases, the differential diagnosis is based on the vitality characteristic of the injuries, particularly on the presence of hemorrhages, bruising in proximity of the ligature furrow. Suicide by self-strangulation, although not frequent, can cause important difficulties in the distinction from homicide [78]. It presupposes a constriction of the neck that lasts beyond the loss of consciousness implying the use of method by the victim to prevent the release of the tourniquet (i.e. multiple revolutions or knotting [79,80]. The ligature furrow in these cases is continuous, horizontal and equally deep around the perimeter of the neck, and in most cases it is the only finding detectable, while in cases of murder the victim often shows signs of a struggle, semicircular skin lacerations possibly attributable to fingernails and scratches on the neck, inflicted in an attempt to break free from the noose [81].

Smothering is rarely used as a suicidal method and mostly by individuals suffering from psychiatric diseases, who occlude the nose and mouth with objects crammed into the airway [82], or use a plastic bag to cover the head [83]. A homicide dynamic is also rare in adults and, in those cases, external findings are usually ecchymosis and excoriation on the mouth and on the nose, due to the compression of the aggressor's hands directly or through other means. Significant in cases of direct suffocation could be injuries on the internal part of the lips and the cheeks, represented by bruises and small tears produced by the teeth.

Asphyxiation by drowning is a common method of suicide but, frequently, it is not easy to distinguish between a suicidal and accidental dynamic. The suicidal nature of death is suggested by the presence of associated lesions, such as wrist slashing [84], of self made ligature or use of weights [85]. Particular importance in such cases is attributed to medical history and circumstantial data, such as the discovery of suggestive findings (i.e. farewell messages) and the results of the judicial inspection (i.e. clothes of the victim found neatly folded along the river). Murder cases are rare and they are usually due to the stunning of the victim caused through other forms of violence, resulting in injuries to the corpse.

In most cases of poisoning, there are no injuries detectable, but in some cases the association with other injuries attributable to self-inflicted methods, such as the presence of cut injuries on the volar surface of the wrists, is indicative of suicide.

Based on the above-mentioned generical indications derived from the literature the score was built as indicated in the Table 5.

2.1.6. Correction factor (Table 6)

To complete the system score a correction factor of the total score has been inserted, based on the result of the analysis of any changes in lifestyle or habits on the part of the subject prior to death. These "relevant lifestyle changes", reported in Table 6, are

Table 6
Correction factor of the total score, based on the presence of positive indicators of suicide (i.e. risk factors).

Correction factor	
Partial score	Positive indicators of suicide
−1	At least one between: - Isolating oneself from friends and/or family members - Communicating to relatives or friends a conviction of the meaninglessness of life (hopeless life) - Getting rid of personal items of sentimental value - A sudden improvement in mood after a period of mood deflection - Neglecting personal hygiene and physical appearance - Purchasing or accumulating pharmaceutical drugs - Purchasing or procuring firearms - Sudden renewed interest or loss of interest in religion - Neglecting hobbies or daily routines - Making appointments with a doctor for slight or dubious ailments - Resigning from one's job - Sudden interruption of work - Change in performance at school, university, or work - Changes in sleep and appetite patterns

Table 7
Total scores corresponding to each category.

Total score	Category	
0–1	Typical suicide	
2–3	Atypical suicide	Slightly
4–5		Moderately
6–7–8		Strongly
9–10	Death incompatible with suicide	

usually collected to perform the psychological autopsy [86,87], and in this context are named as "positive" indicators of suicide.

The subtraction of a point from the total score is applied in the case of the presence of at least one of these positive indicators of suicide.

2.2. Total score (Table 7)

Giving a score from 0 to 2 for each item and applying the correction factor, in each case corresponding to a score from 0 to 10.

In light of this methodological approach, the cases related with high probability to suicide will have a score 0 or 1, the cases incompatible with suicide will reach the maximum values of 9 or 10, while intermediate cases, associated with a score comprised between 2 and 8, identify those cases where the differential diagnosis between homicide, accidental death and atypical suicide is more difficult, and the self-suppression cases are more difficult to recognize.

Through the application of the proposed score each case is attributed to one of the 5 categories: typical suicide, slightly atypical suicide, moderately atypical suicide, strongly atypical suicide and death incompatible with suicide.

In case of a "*typical suicide*", characterized by a value 0 or 1, a suicidal dynamic should be considered highly probable, while the higher the total score the higher should be the probability of a non-suicide case.

The method proposed was retrospectively applied to 180 cases of suspicious death in which both death scene investigation and standard forensic autopsy were performed. The cases, randomly selected from the database of the Legal Medicine of Padua University were divided equally between suicides [60], homicides [60] and accidental deaths [60]. The period examined was between 2001 and 2017, with the exclusion of those cases with ages inferior to 18 years old at the time of death.

In all 180 cases the death scene investigation report was analyzed, together with health records, the on-site external examination of the body and circumstantial data with preliminary statements from relatives and/or suspects to the police officers. The analysis was blindly conducted.

The results were then compared with the definite dynamic of occurrence of the facts, ascertained at the completion of the investigations. Quantative variables (partial and total scores) were analyzed reporting the mean and the median, and compared between dynamic categories by Kruskall–Wallis test. Predictive ability of the score in forecasting suicides was analyzed by univariate logistic regression, and the result reported as odds-ratio with 95% confidence interval.

3. Results

3.1. Total score

The results show a statistical correlation between the value of the total score and the probability of a suicidal dynamic (median: 2 suicides, 7 accidental deaths, 8 homicide), with a predominance of low scores in suicide cases, while in cases of accidental deaths, and even more in cases of homicide, scores lower than 3 are not registered and the main part obtain a score greater than or equal to 7 (Fig. 1). The increasing of every mark in the total score rises more than seven times the probability of a non-suicidal case, as shown by the Odds Ratio (7.41; IC 95%[2.28–24.02]).

3.2. Partial score

Results show also a correlation between the value attributed to each item of the score and the probability of facing a suicide, as is reflected by the comparison among the means of the score attributed in each criteria, divided on the basis of the dynamic (Table 8), with the exeption of the criteria "Number of means", which assumes a partial score of 0 in all cases of accidental deaths.

3.3. Categories

Concerning the subdivision into categories of the 180 cases analyzed, 24 has obtained a mark of 0 or 1, therefore belonging to the "typical suicide" category, while 26 cases have obtained higher marks of 9 or 10, therefore belonging to the "incompatible with suicide" category. In these cases the agreement of the final result with the effective dynamics was 100% as all 24 typical suicide corresponded to the suicide dynamics while all the 26 cases not compatible with suicide corresponded to homicide dynamics (Fig. 2).

The 130 cases that have reached an intermediate value, from 2 to 8, belong to the category of the "atypical suicide" and are subdivided as follows:

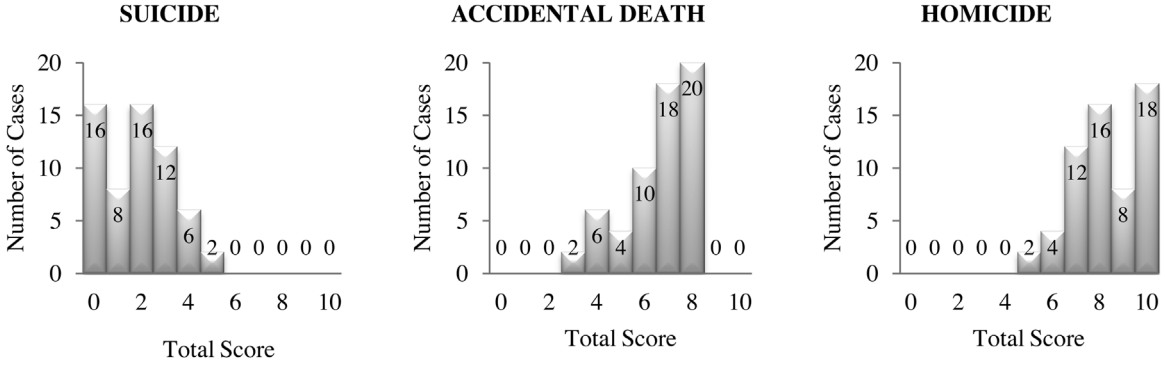

Fig. 1. Histograms representing the distribution of the number of cases for each total scores (from 0 to 10) according to the dynamics of death (suicide, accidental death, homicide).

Table 8
Mean of the *parial scores* given to each *item* (1–5), divided according to the *dynamic* (suicide, accidental death, homicide).

		Mean of the partial score				
		Item 1	Item 2	Item 3	Item 4	Item 5
Dynamic	Suicide	0,8	0,5	0,3	0,1	0,1
	Accidental death	1,8	1,6	1,7	0	1,5
	Homicide	1,8	1,8	1,9	0,9	1,8

Item 1—statistical frequency of the method adopted by the victim; item 2—victim's personal history of mental illness; item 3—consistency of the crime scene evidence with a suicidal dynamic; item 4—number of means; item 5—compatibility of means and injuries with a suicidal dynamic.

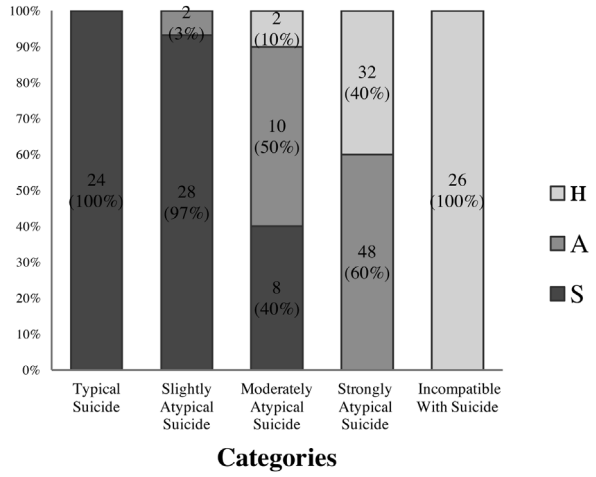

Fig. 2. Absolute and relative (within patenthesis) frequency of suicide (S), accidental death (A) and homicide (H) in the each category.

- "slightly atypical suicide" (values 2 or 3): 28 suicides, 2 accidental deaths, 0 homicides;
- "moderately atypical suicide" (values 4 or 5): 8 suicides, 10 accidental deaths, 2 homicides;
- "strongly atypical suicide" (values 6, 7 or 8): 0 suicides, 48 accidental deaths, 32 homicides.

4. Discussion

Suicide is a serious global public health problem and the World Health Organization estimate that about 800.000 people die due to suicide every year [88]. The number of suicide is higher than the homicide rates in many Western Countries. In Italy, for example, the last annul data available record 468 homicides compared to 3935 suicides [89] and several studies suggest that the rate of suicides is underestimated [90]. The early correct framing of a case as suicide, as well as being useful for statistics and prevention strategies [90], is important for the medico-legal expert in ordert to arrive at the appropriate classification of the case from the beginning. A system based on a positive diagnosis of suicide has therefore been proposed [7].

To achieve a correct suicide diagnosis, as in each diagnostic path, it is important to consider and promptly identify both risk factors and characteristic findings of a self-induced death. Suicide risk factors had been identified, in the past years, mainly through several studies based on the psychological autopsy, which is the most direct technique currently available for examining the relationship between particular antecedents and suicide [11,12], while findings characteristic of suicide, which allow the distinction from homicides, accidents or natural death, have been the object of a large number of studies, mainly focused on the means and injuries representative of suicidal dynamics, as highlighted in the method presentation (fifth item).

The present study proposes for the first time a death scene interpretative method for the positive diagnosis of suicide that consider both risk factors and characteristic findings, taking into consideration circumstantial data and the method adopted.

Currently, in fact, there is a lack of specific international guidelines for the identification and consistent determination of suicide among medico-legal experts and coroners [6,91], even if the first operational criteria for the suicide determination date back to 1988 [92].

Several studies have shown that the agreement of forensic experts on the classification of controversial but representative death scenarios varies [3–5]. Furthermore, is has been demonstrated that prior information given to crime scene investigators influence their perception and interpretation of the death scene [2], which is, in fact, interpretated differently depending on how it is presented, and both the initial and the final assessment are influenced by the prior information given. Other studies have shown that, particularly for the diagnosis of suicide, there is too much emphasis on circumstantial data and on the presence of suicide notes [39].

This proposed scale aims to give a reliable and objective way of recording the on-site inspection findings for the initial assessment of a death scene, giving an indicator of the probability that the case is a case of suicide.

The score, in fact, was effective in the identification of suicides in the case series applied, the total score and the partial scores being both inversely proportional to the probability of facing a suicide case. The exception of the partial score "number of means", as resulting from the analysis of the median of the partial score (Table 8), is explained by the fact that an accidental death is generally caused by only one method. This feature, may allow the identification of cases that correspond, with high probability, to homicide dynamics, which are those that fall in the "incompatible with suicide" category (total score 9–10).

Based on the data collected, the best cut-off value to select for distinguishing a suicidal method from one that is not suicidal, with a high level of probability, is 4. In the cases that have been analyzed, it can be seen that a value less than 4 represents 87% of suicide cases, compared to 3% of accidental deaths and 0% of homicide cases.

In cases where it is not possible to obtain the information already listed during the on-site inspection, the score can also be completed during the subsequent post-mortem investigations.

The limitations of the study are based on the fact that the methodology has been applied retrospectively and the cases are limited to a single Foresic Institute. Therefore, these preliminary data must be confirmed in the following studies that foresee the application of the score on-site, in a wider case series, which also permit the standardization of data.

Despite these criticisms, this study provides the first objective interpretative method of analysis of the death scene that, without expecting to reduce the complex death scene activities to the mere application of this method, and without aiming to replace all the necessary post-mortem ascertainments, can be used as a prognostic indicator of the likelihood of being faced with a case of suicide, while the higher the total score, the more difficult can be the management for the assessment of the manner of death and the inter-expert agreement.

5. Conclusions

The present study has focused on the creation and test of a system score, to be used starting from the death scene, useful for

the preliminary identification and classification in terms of typicality of suicides.

The proposed score and the subsequent classification of suicides into categories of “typical suicide”, “atypical suicide” (divided into slightly, moderately and strongly atypical) and “incompatible with suicide” have been found to be efficient in the identification of self-inflicted deaths and can be useful to perform an objective evaluation of the scene, without this being influenced by the prior information recieved. Further applications of this method are necessary to confirm the preliminary results obtained.

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