Suicides and domestic setting corpses

A forensic view on these dead individuals

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CHAPTER 5

Scene of death investigation in apparent suicidal deaths in Rotterdam, the Netherlands

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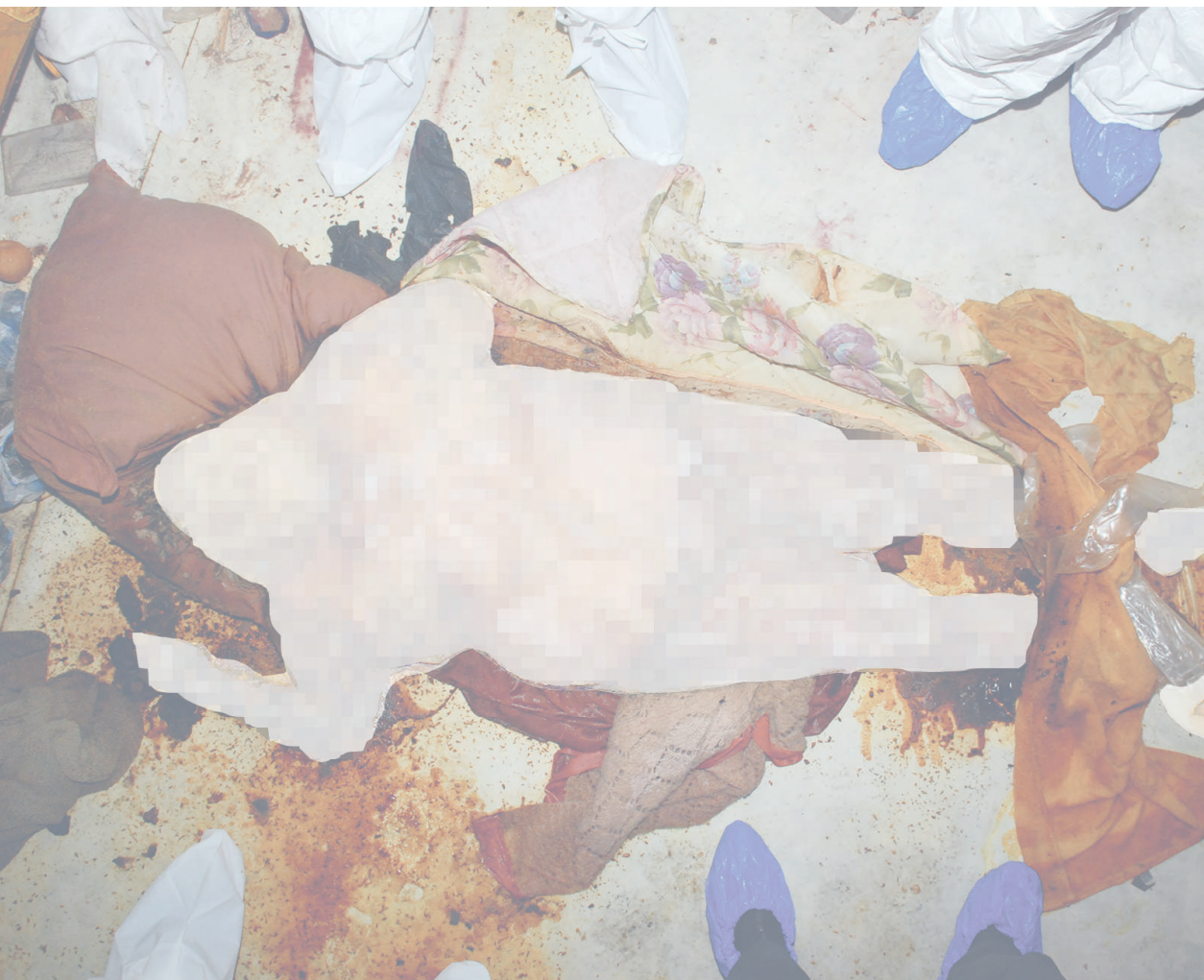

Abstract

Guidelines from the Netherlands describe that unnatural deaths should be investigated by a forensic physician and Crime Scene Technicians (CST), but this is not always the case. In this study, we aimed to determine what predicts the non-attendance of the CST at the scene of death of suicides in police region Rotterdam, the Netherlands.

Data of 315 suicides (2016–2017) that have been externally examined by forensic physicians and reports from the CST were analysed. Statistical analysis was performed to determine the factors predicting the involvement of the CST at the scene of death.

The CST were not attending in 23% (n=72) cases, and over half of these cases were not found in the registration system of the CST. About some the CST was not informed. Predictors of the non-attendance of the CST were poisoning, the individual was found by an acquaintance or family, history of suicide attempt and examination of the deceased in the hospital.

In this study, we observed that the CST was sometimes not attending the investigation of apparent suicides. More research on this topic should be done to investigate the value of the presence of the CST at the scene before concluding that non-attendance of CST on site influences the quality of the scene of death investigation and corresponding conclusions. Since 2017 several quality improvements were made, but an (inter)national conjoint protocol for uniform and structural suicide investigation could secure the quality of the scene of death investigation of suicides and would provide information useful for evaluation.

Introduction

All over the world, there is a need for high quality death investigations by police and medicolegal experts in order to rule out possible crime. In 2010 Pearsall wrote an article discussing possible solutions for the existing fragmented system of forensic death investigation in the United States. The different systems for handling death investigation are a huge challenge. The communication between the forensic investigators and the 'medical specialties' could be improved, as well the quality could be improved when the jurisdictions work within a uniform system using either a coroner, medical examiner or a forensic pathologist.[1] Also in the Netherlands, the lack of a uniform high quality death investigation, especially when a suicide is suspected remains a struggle.

In the Netherlands, when a death is reported outside a hospital or care facility, firstly uniformed police officers go onsite to examine the situation and to check if lifesaving procedures are possible. After the discovery of a dead human body, officers call their chief to decide at the scene whether there are clues for a possible crime/homicide or suicide. If so, Crime Scene Technicians (CST) are contacted to evaluate if there is added value to proceed with a formal crime scene investigation including the collection of evidence. In Dutch law, every death needs to be examined by a doctor, but when a death could be unnatural, it needs to be examined by a forensic physician. The forensic physician can either be consulted directly by the police at the scene of death, by a general practitioner at the scene or by a medical specialist from a care facility. The death investigation by the forensic physician is an external examination of the body and can be followed by an (internal) autopsy by a forensic pathologist if deemed necessary by the public prosecutor.

The Dutch National Police have their own guidelines regarding scene of death investigation, as do forensic physicians[2, 3] but the Netherlands is subdivided into 10 regional police units with varying local procedures and agreements. In case of a homicide, the protocol dictates that the crime scene investigation is a collaboration of the forensic physician, the CST and the Detective Bureau/detectives. The CST have education about different kinds of scene of death investigations and investigation possible crime scenes. For the scene of death investigation of an apparent suicide, however, there is no conformity captured in an overarching guideline. The Rotterdam police force policy is to investigate all apparent suicides. In practice however, there are signals that the CST and detectives are not always involved in the scene of death investigations

of all apparent suicides in the larger regional divisions of the Netherlands, such as in Rotterdam, one of the largest regional divisions of the Netherlands.

At the scene of death, the forensic physician is responsible for the external examination of the body, the CST collects evidence (concerning fields: DNA, knots, ballistics, fingerprints) and photographs the (evidence at) the scene of death) while the detectives interview the witnesses and collect background information. Until 2019 forensic physicians were trained on the job with a course containing 30 days of theoretical basics on forensic medicine. Nowadays, to become a forensic physician, someone has to complete a three-year fulltime education on forensic medicine after completing medical school. So, the forensic physicians are trained to examine the body extensively in order to determine the manner and cause of death, but they only have basic knowledge on forensic evidence collection and interpretation or forensic traces at the scene of death. The non-attendance of the CST at the scene of death could have major consequences; as a result, this could negatively influence the quality of the forensic investigation of a suicide on the scene of death and could have adverse (future) medicolegal consequences. In the end, it might lead to murders staged as suicides incorrectly labeled as suicides.[4] When years later new evidence or suspicion rises, no adequate evidence and documentation is available to reevaluate the case, allowing offenders to escape prosecution.

It is unclear to what extent and in particular the nature of the cases the CST is not attending the scene of death of an apparent suicide and for what reason. Presence of the CST at the death scene of 'obvious suicides' could be important for the quality of the investigation. If questions arise later about the conclusion 'suicide' and the scene of death was not photographed systematically and no 'evidence' was not collected on site by the CST, reevaluating the manner and cause of death for the purpose of a second opinion, would be impossible. Examples of 'obvious suicides' are suicides with a verified cause of death such as witnessed fall from height, an announced suicide with a suicide note at the scene, a delayed death with an admission to a hospital and the possibility of taking a statement. Examples of lack of collectable evidence are cases where extensive lifesaving actions took place or a hanging where someone cut the rope or an intoxication with unclear intention or cause of death.

In this study, we want to investigate if apparent suicide investigations in the Netherlands sometimes are examined without the collaboration of the CST and detectives and if so, in which cases they were not attending the scene

of death. If the uniformed police officers are present at the scene, only some general information about the suicide will be documented and shared with the forensic physician. In this study we focused on the non-attendance of the CST because we consider the involvement of the CST to have a positive impact on the accuracy of conclusions considering the forensic investigation of a dead body at the scene of death. The following questions were examined:

1. Which percentage of the suicides investigated by forensic physicians in the region of Rotterdam was also examined by the police and in particular by the CST?
2. If the CST was not attending the scene of death, was this a result of a (telephonic) consultation and was the reason for absence documented?
3. What is the difference in characteristics between suicides investigated with involvement of the CST and without?
4. Which characteristics of the suicides predicted the non-attendance of the CST at the scene of death?

Material and methods

Study population

In this retrospective observational study, data were collected from the electronic registration system (MicroHis) of the forensic physicians of the police region of Rotterdam (consisting of the city Rotterdam and surroundings, Rijnmond and Zuid-Holland-Zuid). As pointed out, in case of a (suspected) unnatural death, the treating physician is obligated by law to consult a forensic physician for the external examination of the body and scene of death. In some cases the police are called directly to the scene of death of an apparent suicide. In that case, the police directly consult the forensic physician. The forensic physician makes the final decision about the manner of death. The conclusion whether the death could be a suicide will usually be a conjoined conclusion of the CST and detectives, but the forensic physician makes the final decision. As a consequence, the registration of the forensic physicians provides a complete picture of all (suspected) suicides in the studied area.

The number of inhabitants of the police region of Rotterdam was 1.795.231 in 2016 (+/- 10% of the total inhabitants of the Netherlands) during the study period 2016 and 2017.

Data collection

All external examination reports of the police region of Rotterdam concluded as 'death by (possibly) suicide' that had occurred between 1 January 2016—31 December 2017 were extracted from Microhis for this study. All deaths coded as 'suicide' were included.

At the scene of death of a suicide, different police officers were involved: forensic technicians (CST), responsible for forensic investigation of the scene of death including photographic capturing and collecting evidence; detectives, responsible for talking with witnesses and collecting background information; uniformed officers, able to check police database, write brief mutation about their presence. Subsequently, the presence of the different police officers was scored, and information of included suicide cases was extracted by two authors of this article (LH and MdH) from the CST registration system. Not all suicide cases were documented in the CST registration system. The reason of non-attendance of the CST at the scene of death was extracted by searching free text in the reports of forensic physician and the CST. Sometimes this reason was recorded in both reports, sometimes only in the report of the forensic physician. The reports of the forensic physician were used when the police report was incomplete or absent.

We subsequently coded all cases, using the reports of the forensic physician determining the following characteristics: gender, age at time of death, method of suicide (intentional self-harm due to 'poisoning', 'asphyxiation, suffocation, hanging', 'violent suicide method' (jumping from a high place, jumping or lying in front of a moving object, crashing of motor vehicle, firearm) and 'other'), relationship between the individual who found the deceased and the deceased, preparatory acts of the suicide, place of the external examination, history of suicide attempt, suicide note, somatic and psychiatric/psychological problems. The different characteristics were classified after literature review on staging a homicide as suicide.[4–19] The term obvious suicide was used in the case of a discovery of a dead body where police officers conclude, before the actual scene of death investigation by forensic physician, because the findings meet their thoughts about the cause of death. For example, when an individual is found dead after jump/fall of height and in the house a suicide letter is found, the police already conclude that an obvious suicide took place or when a deceased is found with many empty pill strip and a suicide note, police conclude beforehand the dead to be a result of a suicide.

Even though suicide by gunshot is, according to known literature, the most prevalent staged homicide as a suicide, we choose to combine this method with the above mentioned other types of violent deaths since owning a gun is rare in the Netherlands and this suicide method is almost not prevalent in the Netherlands. Moreover, if it occurs police will always conduct a thorough investigation.

The availability of a suicide note on the premises, psychiatric and medical history and information about previous suicide attempts was coded as absent if the forensic physician reported no such finding for example if it was unknown or unclear during the external examination. A mandatory part of a suicide investigation is to establish this history by consulting the general practitioner of the deceased and (past) therapists which is also be checked with witnesses/relatives/friends.

Data-analysis

Statistical analysis was performed with SPSS for Windows version 27. Chi-square test and independent samples *t*-test were used to compare characteristics according to the presence/absence of the CST at the scene of death.

Logistic regression was used to predict non-attendance of CST at the scene of death (dependent variable) from the variables that differ significantly in the univariate analyses. In order to reduce multicollinearity, highly 167 correlated variables were removed.

Results

During the study period of 2016 and 2017, a total of 315 suicides were investigated by forensic physicians in the region of Rotterdam, the Netherlands. Table 1 shows the results concerning the non-attendance of police and in particular the non-attendance of the CST in these suicide cases. The CST were not attending in the suicide investigation at the scene of death in 23% (n = 72) of the suicide cases. In 4% (n = 12) there was no police present at the scene of death of a suicide investigation. In 19% (n = 60) of the cases police (uniformed officers and/or detectives) were present at the scene of death, while the CST were not attending. In 96% (n = 303) of the cases there was police involvement at the scene of death, either CST, detectives or uniformed police.

Table 2 shows the reasons for non-attendance of the CST at the scene of death documented in the reports of the forensic physician. In 44% (n = 32) of the cases the CST were informed about the suicide and the reason for non-attendance at the scene of death was documented both in the report of the CST and forensic physician. In 56% (n = 40) there was no documentation in the CST registration system about any consultation about the suicide to explain the non-attendance of the CST at the scene of death (table 2). In two of these 40 cases, the registration system of the forensic physician did document a consultation between the CST and the chief of uniformed police. In the other 33 cases it was unclear if there was contact between the detectives/uniformed officers or forensic physician with the CST.

Table 3 shows the differences in characteristics between suicides investigated by the CST and without the CST. The CST were significantly less attending the external examination when a suicide was a result of poisoning or asphyxiation, suffocation, hanging. When the external examination was performed at the care facility, the CST were not attending in 11% of the cases; significantly less compared to other locations of the external examination (63%). When a deceased was discovered after a suicide by family or an acquaintance, the CST were significantly less attending the scene of death compared to individuals found dead by other individuals. The CST were significantly less attending at the scene of death for the external examination if a deceased had a suicide attempt in history, compared to individuals without history of a suicide attempt.

The results of the multivariate logistic regression on predictors of non-attendance of the CST at the scene of death of a suicide are shown in Table 4. The following variables significantly predicted the non-attendance of the CST, $F(6,1) = 72.445$, $p = 0.000$, $R2 = 0.312$): history of suicide attempt, suicide method poisoning, the deceased being discovered by family or an acquaintance and place of external examination added significantly to the prediction. Suicides caused by poisoning were less likely to be examined by CST (OR = 0.27; 95% CI 0.090–0.787) than other types of deaths. When a case was known with a history of suicide attempt, the suicide was less likely to be examined by the CST (OR = 0.40; 95% CI 0.213–0.753). When a suicide was discovered by family or an acquaintance the suicide was also less likely to be examined by the CST (OR = 0.29; 95% CI 0.130–0.647). When the external examination was performed in a care facility the CST were less attending the scene of death compared to other locations (OR = 235 0.19; 95% CI 0.075–0.482).

Discussion

In this study a total of 315 suicides examined in 2016 and 2017 by the forensic physician in the region of Rotterdam were analysed regarding the non-attendance of the CST. The results showed that in a quarter of the cases CST were not attending the suicides investigated. Additionally, more than half of the cases were unknown in the CST registry. This means either no consultation took place in these cases with the CST or the telephonic consultation was not registered. When there was no registration, it is possible that the CST in some cases thought their presence on the scene of death would not have been added value to the investigation. The non-attendance could be problematic when questions occur later on in the process of an investigation. With the possibility of a crime at hand, it is a risk when no evidence is collected by the CST at the scene of death when a suicide occurred.

Suicide method

Most (43%) of the studied suicides were a result of asphyxiation, suffocation, hanging or poisoning by drugs, medications and biological substances. This corresponds with national numbers on suicide prevalence. The results showed that the CST are significantly more often attending the scene of death when a suicide is a result of asphyxiation, suffocation or hanging, but in the multivariate logistic regression this variable did not significantly predict the non-attendance of the CST at the scene of death. The CST did investigate most asphyxia and suffocation cases, but not all hangings, and therefore this predictor was probably not significant. We could not test this in our regression because the numbers are too small.

When a suicide was caused by poisoning by drugs, medications and biological substances however, CST was significantly less attending the scene of death. From the multivariate logistic regression there is a 0.25 odds that CST is not attending the scene of death of a self-poisoning.

Relationship between the individual finding the deceased and the deceased

When the deceased was found by acquaintances or family members, CST was more likely not attending the scene of death when compared to the deceased being found by strangers. This might be because the circumstances concerning the death are clearer to begin with. Also, if the deceased has a history of suicide attempt or suicidality, the CST were more often not attending the scene

of death. Information provided by witnesses should always be objectified. The forensic physician can do this, e.g. by contacting the family doctor, but they cannot use police data to check for registrations in the system e.g. criminal history, domestic violence.

Place of external examination

The non-attendance of the CST at the scene of death was associated with the doctor from the hospital informing the forensic physician about the death after suicide. The CST was almost two times less attending when the scene of death is a care facility than when the scene of death is outside a care facility. When a suicide attempt not directly leads to death, the individual is treated in the hospital and might stay there for a few days. In that case the uniformed police might not have an incentive to call the CST to do an investigation of the scene, since there is no deceased (yet). Doing an investigation after a few days, usually means the 'scene of death' is already damaged and in the care facility there is less 'evidence' to collect or opportunities to photograph.

When a suicide is committed in a care facility, the CST usually is present to investigate the scene of death. It is protocol to investigate suicides when an individual is assigned to government care.

Risk of staged suicides in general

Crime scene staging involves deliberate adjustment of evidence by the offender to simulate events that did not occur for the purpose of misleading the authorities[8]. In the literature, the prevalence of staging is unknown. Case studies and case reports however do provide some information about the characteristics of staging (victims age between 30–40 years, victim gender mostly female (while perpetrators are mostly male), place of death, relationship between deceased and offender (mostly acquaintance e.g. (ex-)partner or family member), suicide note (fabricated), history of suicide attempt (mostly present or fictious). The medical literature describes suicides, next to accidents, as the go-to method to stage a homicide and most homicides are staged as suicide by gunshot wound or asphyxiation, suffocation or hanging[9, 10]. Therefore, it is important to investigate and capture the scene of death, because in most of these cases suspicion rose after a while when new evidence was discovered. In our study age was not an independent predictor, but our hypothesis is that it can be a risk for non-attendance of the CST and missing possible staging,

as older people may be more inclined to die as a result of homicide. In 2018, the prevalence of murder of individuals of 60 years and older was 0.92/100.000 inhabitants while this number was 0.44/100.000 on average in the total population in the Netherlands. In medical literature most homicides staged as suicide are between 30–40 years old, but that could be due to unawareness. To confirm this theory, more investigation on this subject is advised.

Suicide due to poisoning with medication or drugs and asphyxiation, are possibly qualified as 'obvious suicides' because of preparation, history of suicide attempts and/or suicide note and therefore might not get a thorough death scene investigation with presence of the CST. This is a risk because the literature describes staged overdoses with a fake suicide note where the deceased is actually poisoned by someone else. In order to rule out of possible staging, scene of death investigation in collaboration with CST is important especially in cases of poisoning, since the external examination of the deceased might not show any abnormalities. The forensic physician could provide some objective information talking to the general practitioner or psychiatrics to check if there was actually a history of suicidal thoughts, in order to objectify or falsify statements or evidence on the scene of death. The non-attendance of the CST could however lead to a substandard investigation in these suicide investigations, since the forensic physician is no expert in examining evidence. Investigation of a suicide note or other points of interest at the scene of death is the specialty of the CST and that evidence could have been the only clue a possible homicide was staged as a suicide.

Staging a homicide as a so called 'self-chosen-deaths' is easy these days, when the internet provides declarations to print and this may lead to earlier biased consultation, thinking the involvement of the CST at the scene of death would not have any added value in this case.

This study showed a higher non-attendance of the CST when an individual dies in the hospital due to suicide. Most staged suicides are found at home, but if deaths after several days in hospital are not investigated by police and the place of suicide attempt is not visited, important 'evidence' might be missed or results in insufficient information when questions about the death arise afterwards.

The relationship between the deceased and the individual finding the deceased after suicide is associated with the non-attendance of the CST at the scene of

death. This can possibly be explained by the fact that familiar people may have an intimate relationship with the person concerned. This makes it easier to use verbal staging to deceive the scene of death investigation, which may make the 'suicide' scenario more credible[7] and therefore the CST or uniformed officers could have decided not to extensively investigate the scene of death in this case. The term verbal staging is used when an offender makes self-initiated contact with police to report a homicide as a suicide in an effort to deliberately mislead authorities and avoid investigative examination[10, 14].This, because this may mean that the non-attendance of the CST in these cases poses a risk that a staged suicide may not be appreciated.

The 'suicide' scenario also becomes more credible in a case with a history of suicidality. Even then, it is important to keep an open mind for all possible scenarios when investigating the scene of death. For example, a third party could mentally influence someone and possibly force them to commit suicide. It is known that in cases of a staged suicide, the 'finder' of the deceased is usually the one who killed the deceased and uses verbal staging to redirect the police in the 'suicide' scenario. Reporting history of suicide attempt or suicidality is a go-to method in case of staging.

Limitations

There is potential for information bias in this study. Case information was taken from documented reports of the forensic physician and the CST. Some reports were more detailed and the reports were documented by several different professionals. The records of the CST do not include mandatory fields for systematic data collection, while the records of the forensic physician do. However, as pointed out, in case of a (suspected) unnatural death, a forensic physician has to be consulted for an external examination of the body at the scene of death. As a consequence, the registration of the forensic physicians provides a complete picture of all (suspected) suicides in a certain area and because of the mandatory registration system, there was no selection bias using the reports from the forensic physician as leading.

As said before, there is no uniform scene of death investigation of suicides in the Netherlands, neither in Europe nor USA/Canada. Since 2017 both the forensic physicians as the CST made proper quality improvements concerning the scene of death investigation. The government now finances a three-year

fulltime training to become a forensic physician. This post-medicine training replaces the short part time training physicians received before. In 2021 a new book about forensic medicine was published in the Netherlands for forensic physicians with more detailed chapters about the external examination[20]. In 2018 the Netherlands police published a guideline 'how to detect the (almost) perfect murder"[21]. The CST department implemented this guideline in the different police units for quality improvement throughout the country focusing on 'red flags' to identify possible staged crime scenes. The next level of quality improvement would be identifying in what cases the CST would be added value, create a combining guideline, and make sure both the detectives as the forensic physicians are properly trained to scan a scene of death to consult the CST in the right cases.

To our knowledge there is no scientific literature on quality of scene of death investigation of suicides and presence of CST, however, most study books, especially on scene of death investigation and preventing staging, prescribe at least investigation by experienced forensic investigators[16, 18]. This study could be a start of initiating investigation on this topic.

Recommendations

In this study we investigated the non-attendance of the CST at the scene of death of apparent suicides. It was observed that the CST were sometimes not attending the scene of death, in 56% there was no registration of an apparent suicide, and in some of those cases the CST were possibly not even consulted. We hope this study will lead to more awareness and substantiate whether the CST should be present at the scene of death investigation of apparent suicides.

The prevalence of staged suicides is unknown, and we think it will be difficult to investigate this subject in a systematic prospective study. But we do believe that the best way to prevent missing staged suicides is investigating the scene of death of an apparent suicide in a structured way. We believe, for quality reasons, no conclusion should be drawn before a proper death scene investigation is conducted. Sometimes no evidence will be found at the time of the investigation e.g. when lifesaving actions resulting taking down a hanging victim, but additional information can always arise after days or even many years. Evidence which could not be used ten years ago are now resulting in proper DNA results. But we also understand money and personal issues could ask for a critical view

on when to do an extensive death scene investigation and maybe in some cases this is not necessary. However, this askes for more research and a clear and uniform agreement on when the CST needs to be present at the scene of death. Extra training of the forensic physician, detectives and uniformed police to recognize and interpret forensic evidence could add value to the investigation; so that all the experts at the scene can better estimate when to consult the CST.

Until then, a conjoint guideline, drafted by the forensic physician, CST and detectives in collaboration, should be implemented to guarantee high quality forensic investigation of a suicide at the scene of death. This guideline must list a minimum of factors which should be included in the scene of death investigation of an apparent suicide, including red flags concluded from literature on staged suicides, characteristics of the deceased and scene of death circumstances. If for some reason the CST or detectives could not collaborate a scene of death investigation, at least a consult between the professionals should be incorporated to discuss possible risk factors and evidence or observations at the scene of death. A possible tool which could be used, is a 'Suicide Death Investigation Form' as developed by Colorado Department of Public Health & Environment or for example a protocol published by Italian collogues Visentin e.a. in 2019.[19, 22]

Conclusion

This study showed the non-attendance of the CST at the scene of death of suicides cases in 2016 and 2017 in Rotterdam, the Netherlands. Various predictors, such as suicide history, suicide method poisoning, the relationship between the deceased and the person finding the deceased and place of external investigation, are associated with the non-attendance of the CST at the scene of death investigation of an apparent suicide. The non-attendance of CST could influence the quality of the examination, as well as securing evidence from the scene. If it is impossible to investigate the scene of death extensively with presence of CST, there should at least be an extensive consult between the CST and the forensic physician. Although some quality improvements were implemented since 2017, on some points there are gains to be made.

The authors declare that there is no conflict of interest.

Table 1. Non-attendance of CST in suicide investigations examined by forensic physicians in Rotterdam 2016- 2017.

Police involvement	Total n (%)
CST non-attendance	**72 (23%)**
No police present at scene of death	**12 (4%)**
Other police present at scene of death	**60 (19%)**
Detectives and uniformed officers (without the CST)	8 (3%)
Only detectives	1 (0%)
Only uniformed officers	51 (16%)
CST involvement	**243 (77%)**
Only the CST involved	3 (1%)
The CST and detectives (without uniformed officers)	2 (1%)
The CST and uniformed officers (without detectives)	177 (56%)
The CST and detectives and uniformed officers	61 (19%)
Total suicides	**315 (100%)**

CST = Crime Scene Technicians. Uniformed officers do not investigate the scene of death but do indicate in police systems that they have been present and sometime mutate particularities.

Table 2. Reasons for absence§ of the CST documented in reports of forensic physician (n=72).

Reasons for absence of the CST	Suicide case documented in CST registration system	Suicide case not documented in CST registration system*	Total
'Obvious' suicide	8 (11%)	1 (1%)	9 (13%)
CST and chief agree CST involvement is unnecessary	8 (11%)	2 (3%)	10 (14%)
CST is not available at the requested moment	5 (7%)	0 (0%)	5 (7%)
No traces to investigate, scene manipulated by live-saving activities	4 (6%)	4 (6%)	8 (11%)
No reason documented	7 (10%)	33 (46%)	40 (56%)
Total	32 (44%)	40 (56%)	72 (100%)

* Per suicide case one or more reasons for absence could be documented (on average one reason)

Table 3. Differences in characteristics between suicides investigated with and without the involvement of the CST.

	CST at the scene	CST absent at the scene	Total	p-value
Total	243 (77%)	72 (23%)	315 (100%)	
Male	167 (69%)	46 (64%)	213 (68%)	0.48
Age on average (SD)	51 (18)	59 (16%)	53 (18%)	0.00
Type of suicide method §				
Poisoning*	41 (17%)	31 (43%)	72 (23%)	0.00
Asphyxiation, suffocation, hanging	114 (47%)	21 (29%)	135 (43%)	0.01
Violent suicide method^	58 (24%)	12 (17%)	70 (22%)	0.13
Other&	30 (12%)	8 (11%)	38 (12%)	1.00
Place external examination				
Care facility	14 (6%)	27 (37%)	41 (13%)	0.00
Other±	229 (94%)	45 (63%)	274 (87%)	
History suicide attempt	86 (35%)	39 (54%)	125 (40%)	0.01
Suicide note	79 (33%)	27 (38%)	106 (34%)	0.48
Psychiatric history	142 (58%)	45 (63%)	187 (60%)	0.59
Somatic history	58 (24%)	12 (17%)	70 (22%)	0.69
Relationship of individual finding the deceased and the deceased				
Deceased found by family, neighbours or roommates (acquaintance)	50 (21%)	40 (56%)	90 (29%)	0.00
Deceased found by other individuals	193 (79%)	32 (44%)	225 (71%)	

§ p value calculated with dummy variables (e.g. Poisoning 1 = yes, 0 = no) using chi^2

* poisoning by drugs, medications and biological substances

^ jumping from a high place, jumping or lying in front of a moving object, crashing of motor vehicle, firearm & drowning, fire/flame, sharp or blunt objects)

± for example: home, outside, basement, garage

Table 4. Suicide case characteristics associated with the presence of the CST at the scene of death of a suicide in the study period (multivariate logistic regression).

Predictors	Estimated parameters				Exp(B) 95% C.I	
	B	Wald	Sig.	Exp(B)	Lower	Upper
Age	−0.018	3.503	0.061	0.982	0.964	1.001
History of suicide attempt	−0.915	8.064	0.005	0.400	0.213	0.753
Asphyxiation, suffocation, hanging	−0.098	0.034	0.855	0.907	0.319	2.580
Poisoning	−1.323	5.722	0.017	0.266	0.090	0.787
Relationship of individual finding the deceased and the deceased	−1.236	9.143	0.002	0.291	0.130	0.647
Place external investigation	−1.658	12.263	0.000	0.191	0.075	0.482
Nagelkerke pseudo R^2	0,350					

Note: B = regression coefficient, C.I. = Confidence interval, Sig = p-value, Exp(B) = Odds Ratio (OR) Age (continuous), history of suicide attempt (yes = 1), asphyxiation, suffocation, hanging (yes = 1, reference "other"), poisoning (yes = 1, reference "other"), relationship of individual finding the deceased and the deceased (acquaintance/family = 1, no relationship = 0), place of external investigation (care facility =1, home or other = 0).

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