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Coercive measures and accessory penalties in domestic violence: a retrospective cohort study

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Abstract

Domestic violence is a major public health and criminal justice concern, associated with significant consequences for victims, families, and society. In Portugal, electronic monitoring has been implemented as a judicial measure aimed at enhancing victim protection and ensuring compliance with court-imposed restrictions. Despite its increasing use, limited evidence is available regarding the characteristics of individuals subject to electronic monitoring and factors associated with incidents occurring during the monitoring period.

This study aimed to characterise individuals subject to electronic monitoring in the context of domestic violence in the Porto region and to analyse factors associated with the occurrence of incidents during the monitoring period.

A retrospective study was conducted using case files from the *Direção-Geral de Reinserção e Serviços Prisionais*. Sociodemographic, criminological, and judicial variables were collected and analysed.

The findings provided a detailed characterisation of individuals subject to electronic monitoring in domestic violence cases, predominantly male, and identified patterns regarding incidents recorded during the monitoring period. Associations between incidents and selected judicial and criminological variables were explored, contributing to a better understanding of the implementation of electronic monitoring in this context. Logistic regression analysis did not identify significant predictors of incidents during electronic monitoring.

The study contributes to the limited empirical evidence on electronic monitoring in domestic violence cases in Portugal. A better understanding of the characteristics of monitored individuals and factors related to incidents may support decision-making processes within the criminal justice system and inform future intervention and risk management strategies.

Keywords: domestic violence; intimate partner violence; electronic monitoring; offender characteristics; incidents; criminal justice system.



Resumo

A violência doméstica constitui um importante problema de saúde pública e de justiça criminal, estando associada a consequências significativas para as vítimas, famílias e sociedade. Em Portugal, a vigilância eletrónica tem vindo a ser implementada como uma medida judicial destinada a reforçar a proteção das vítimas e a assegurar o cumprimento das restrições impostas pelos tribunais. Apesar da sua crescente utilização, a evidência disponível sobre as características dos indivíduos sujeitos a vigilância eletrónica e os fatores associados à ocorrência de incidentes durante o período de monitorização permanece limitada.

Este estudo teve como objetivo caracterizar os indivíduos sujeitos a vigilância eletrónica no contexto da violência doméstica, na região do Porto, e analisar os fatores associados à ocorrência de incidentes durante o período de monitorização. Foi realizado um estudo retrospetivo com base na análise de processos da Direção-Geral de Reinserção e Serviços Prisionais.

Os resultados permitiram uma caracterização dos indivíduos sujeitos a vigilância eletrónica em processos de violência doméstica, predominantemente do sexo masculino, e identificaram padrões nos incidentes registados durante o período de monitorização. Foram ainda exploradas associações entre os incidentes e variáveis judiciais e criminológicas, contribuindo para uma melhor compreensão do fenómeno. A regressão logística não identificou preditores significativos da ocorrência de incidentes durante o período de vigilância eletrónica.

Este estudo contribui para a ainda limitada evidência empírica sobre a vigilância eletrónica em casos de violência doméstica em Portugal. A melhor compreensão das características dos indivíduos monitorizados e dos fatores relacionados com a ocorrência de incidentes poderá apoiar processos de tomada de decisão no sistema de justiça e informar futuras estratégias de intervenção e gestão do risco.

Palavras-chave: violência doméstica; violência por parceiro íntimo; vigilância eletrónica; agressores; incidentes; justiça criminal.



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List of Abbreviations

APAV – Portuguese Association for Victim Support
CIG – Commission for Citizenship and Gender Equality
DGRSP – Directorate-General for Reintegration and Prison Services
DV – Domestic Violence
GNR – National Republican Guard
GPS – Global Positioning System
IPV – Intimate Partner Violence
PAVD – Domestic Violence Offender Programme (*Programa para Agressores de Violência Doméstica*)
PSP – Public Security Police
SPSS – Statistical Package for the Social Science



1. Introduction

1.1. Domestic Violence as a Public Health and Criminal Justice Problem

Domestic violence is widely recognised as a serious public health issue and a violation of human rights, adversely affecting multiple aspects of victims' well-being and everyday functioning (World Health Organization, 2024).

The extent of domestic violence can also be observed in its global prevalence. According to estimates from the World Health Organization, approximately one in four women aged 15 years and older who have ever had an intimate partner have experienced physical and/or sexual violence perpetrated by an intimate partner during their lifetime (World Health Organization, 2021).

At the national level, recent research has also shown a high prevalence of intimate partner violence, with victimization and perpetration rates above 60% during the previous 12 months in a Portuguese community sample (Capinha et al., 2022). These findings reinforce the relevance of examining intimate partner violence within the Portuguese context and of developing appropriate responses to this problem.

The importance of such responses is further supported by the adverse outcomes associated with intimate partner violence, which can affect mental, physical and social functioning. Evidence from a recent systematic review and meta-analysis indicates that women exposed to intimate partner violence are more likely to experience conditions such as depression, anxiety, post-traumatic stress disorder, psychological distress and suicidal ideation when compared to women who have not been exposed to such experiences (White et al., 2024).

Intimate partner violence places a considerable burden on society, leading to increased healthcare costs, reduced productivity, and greater demands on criminal justice systems (Peterson et al., 2018).

1.2. Domestic Violence in the Portuguese Legal Framework

According to the World Health Organization, intimate partner violence refers to behaviours within an intimate relationship that may result in physical, sexual, or psychological harm, including physical aggression, sexual coercion, psychological abuse, and controlling behaviours perpetrated by a current or former partner (World Health Organization, 2012). In Portugal, intimate partner violence is legally addressed under the broader framework of domestic violence (European Institute for Gender Equality).

Domestic violence encompasses physical, psychological, sexual, and economic forms of abuse that are often persistent, pervasive, and prone to escalation over time (Alves et al., 2019; Vieira-Pinto et al., 2021). Beyond its impact on victims' safety and well-being, domestic violence is associated with significant health, social, and economic consequences. Research has consistently demonstrated higher rates of traumatic injuries, mental health disorders, suicidal ideation, and other adverse health outcomes among victims across different population groups, including women, older adults, and children exposed to violence within the family environment (Clemente-Teixeira et al., 2022; Graça et al., 2023) (Magalhães, 2020) (Novais et al., 2021). Domestic violence may also contribute to broader socioeconomic burdens, including healthcare costs, sickness absence, and reduced workplace productivity (Magalhães, 2020).

The recognition of domestic violence as a matter of public concern and a violation of human rights has been accompanied by important developments in the Portuguese legal framework (Carmo, 2024). Under Article 152 of the Portuguese Penal Code, domestic violence is classified as a public crime, meaning that criminal

proceedings do not depend on a formal complaint by the victim (Government of Portugal, 2025). Legal protection extends to a wide range of victims, including current and former intimate partners, co-parents, children, older adults, and other particularly vulnerable individuals. Depending on the severity of the offence and its consequences, penalties may range from one to five years of imprisonment and may be aggravated in particularly serious circumstances (Portugal, 2019).

1.3. Understanding Domestic Violence: Sociocultural and Coercive Control Perspectives

Domestic violence is influenced by broader social and cultural factors that shape how abusive behaviours are perceived, experienced, and tolerated. Social norms related to gender roles, family relationships, and power dynamics may contribute to the normalization of violence and hinder victims' recognition of abuse and help-seeking behaviours (Alves et al., 2019). Research has shown that beliefs associated with male authority, the justification of violence, and the denial of responsibility are present among some perpetrators of intimate partner violence (Cormos et al., 2023). Similarly, the acceptance of domestic violence myths has been associated with hostile sexist attitudes and broader societal beliefs regarding gender relations (Rollero & De Piccoli, 2020). Family experiences may also influence later perceptions of abusive relationships, as exposure to violence during childhood and adolescence can contribute to the normalization of abusive behaviours (Antle et al., 2020). Furthermore, lower levels of gender inequality have been associated with reduced levels of intimate partner violence (González & Rodríguez-Planas, 2021).

Beyond individual acts of aggression, domestic violence is increasingly understood as a pattern of coercion and control that may persist over time (Stark & Hester, 2019). One of the most influential frameworks in this field is the Power and Control Wheel developed within the Duluth Model, which conceptualises domestic violence as involving a range of non-physical abusive strategies,

including intimidation, emotional abuse, isolation, economic abuse, and coercion (Pence & Paymar, 1993).

Consistent with this perspective, empirical evidence indicates that victims exposed to coercive control report higher levels of psychological, physical, and sexual victimisation than those who do not experience such control (Dichter et al., 2018).

1.4. Responses to Domestic Violence in Portugal

In Portugal, domestic violence began to receive greater social and institutional attention during the 1980s, driven by warnings from the medical community and actions by some non-governmental organizations that denounced child abuse and provided support to women victims of violence (Dias, 2018).

In the 1990s, the implementation of specific legal measures, including Law No. 61/91 and Resolution No. 31/99, represented an important development in the protection of women victims. The Global Plan for Equal Opportunities, approved by the Council of Ministers, incorporated measures aimed at ensuring the safety and protection of women experiencing violence. Subsequently, the Portuguese government established the first National Plan against Domestic Violence, which sought not only to strengthen victim protection but also to promote the social reintegration of offenders. This was followed by Law No. 107/99, which established a public network of shelters for women victims of violence. During this period, additional measures were also discussed to enable the State to advance compensation payments owed to victims by offenders (Dias, 2018).

The Portuguese government launched the National Strategy for Equality and Non-Discrimination 2018–2030, known as Portugal + Igual. This strategy was designed to address discrimination and violence while promoting equality. Led by the Commission for Citizenship and Gender Equality (CIG), with the collaboration of

several entities, including the Public Security Police (PSP), the National Republican Guard (GNR), and the Portuguese Association for Victim Support (APAV), this initiative is aligned with important international frameworks, such as the United Nations Convention on the Elimination of All Forms of Discrimination against Women and the Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (Istanbul Convention). The strategy includes a specific action plan to address domestic violence, focusing on five key areas: prevention, victim support and protection, intervention with offenders, professional training, and the monitoring and evaluation of public policies (Felgueiras et al., 2021).

Overall, the measures adopted in Portugal reflect a gradual shift from isolated initiatives towards more structured and coordinated responses to domestic violence.

1.5. Challenges in Domestic Violence Intervention

Despite the implementation of legislative measures and professional training initiatives, significant challenges remain in the identification, assessment and management of domestic violence cases. One of the most frequently reported difficulties concerns risk assessment, particularly the complexity of accurately determining the level of danger and the likelihood of future violence in each case (Felgueiras et al., 2021).

In Portugal, efforts to strengthen professional responses have included the introduction of mandatory training for magistrates on human rights and domestic violence through Law No. 80/2019 ("Lei n.º 80/2019, de 2 de setembro," 2019). However, evidence suggests that difficulties persist across different professional settings as research has identified several barriers to the early detection of intimate partner violence (IPV) (Silva et al., 2022) such as: absence of routine screening procedures, limited professional training and uncertainties towards

suitable intervention practices. While professionals report addressing violence only after victims disclose their experiences or when signs of abuse become evident, victims may be reluctant to discuss abuse and seek support for other presenting concerns, which can hinder identification and timely intervention (Petersson & Larsson, 2025). Privacy constraints within service settings may constitute an additional obstacle to disclosure (Silva et al., 2022).

Challenges also emerge at the organisational level. Women exposed to violence often interact with multiple health, legal and social services throughout the help-seeking process. When these services operate without adequate coordination, victims may be required to repeatedly recount traumatic experiences, potentially increasing emotional burden and compromising the continuity of support (Organisation for Economic Co-operation and Development, 2023).

Such difficulties have also been documented in the Portuguese context. Family doctors interviewed by Moreira and Pinto da Costa (2024) reported feeling insufficiently prepared to manage domestic violence cases, highlighting uncertainty regarding referral pathways, intervention procedures and available resources. Participants further described receiving inconsistent information from different services, reinforcing feelings of insecurity during case management (Moreira & Pinto da Costa, 2024).

1.6. Interventions Directed at Offenders

1.6.1. Characteristics of Domestic Violence Offenders

Research on male perpetrators of intimate partner violence has identified factors from different individual and social contexts. These include substance use, exposure to violence early in life and aspects related to social perceptions of masculinity (Clare et al., 2021).

The characteristics of men convicted of intimate partner violence can vary considerably. A study conducted in Spain identified three groups of perpetrators,

with differences in previous experiences of violence, criminal history, patterns of aggression and psychological characteristics (Osa-Subtil et al., 2024).

1.6.2. Offender Rehabilitation and Behavioural Interventions

These findings have important implications for interventions targeting domestic violence offenders. In the Portuguese context, unemployment and substance abuse have been identified among the factors influencing Public Prosecutors' decisions regarding referral to social reintegration programmes (Vieira-Pinto et al., 2022). The authors argued that decision-making within the criminal justice system could benefit from the systematic use of scientifically validated intimate partner violence risk factors. Their findings also highlighted the importance of tailoring intervention strategies to offenders' individual characteristics and needs, rather than relying on standardised rehabilitation approaches (Vieira-Pinto et al., 2022).

Similar concerns have also been reflected in the international literature. Over the past decade, perpetrator intervention programmes appear to have moved towards more individualised approaches. Despite these developments, there is still limited knowledge regarding the most appropriate way to adapt interventions for offenders who present a greater risk of reoffending, and this remains an area that warrants further investigation (Travers et al., 2021).

In domestic violence cases, electronic monitoring has been adopted as a measure intended to increase victim protection and reinforce compliance with court-imposed restrictions (Winter et al., 2021). Electronic monitoring may facilitate the supervision of offenders, but its ability to produce lasting changes in behaviour remains unclear (Winter et al., 2021).

1.7. Electronic Monitoring in Domestic Violence

1.7.1. Electronic Monitoring in the Portuguese Criminal Justice System

Within the Portuguese criminal justice system, electronic monitoring is used to enforce judicial measures and may be applied as an alternative to imprisonment in specific circumstances (Martins et al., 2021). Its use has assumed particular relevance in domestic violence cases, where monitoring technologies can contribute to the enforcement of judicial restrictions and the protection of victims.

Beyond its supervisory function, electronic monitoring is intended to reduce the risk of further offending while promoting adherence to court-imposed conditions and enhancing public protection (Martins et al., 2021). By allowing supervision to occur outside custodial settings, it provides a mechanism through which judicial authorities can monitor behaviour while maintaining less restrictive forms of sentence enforcement.

In Portugal, electronic monitoring may be applied at different stages of criminal proceedings and within home-based judicial measures. When authorised by the court, individuals under supervision may engage in educational, vocational or rehabilitation activities, combining judicial control with opportunities for social reintegration. Consequently, electronic monitoring represents a tool that simultaneously pursues objectives of public protection, offender management and community reintegration

In practice, electronic monitoring may be applied in the context of home-based judicial measures, allowing compliance with court-imposed restrictions to be supervised outside custodial settings. Within the Portuguese criminal justice system, this measure can be used at different procedural stages and may permit participation in educational, vocational, or rehabilitation activities when authorised by the court. By combining supervision with opportunities for structured community engagement, electronic monitoring seeks to support

offenders' social reintegration while ensuring compliance with judicial decisions (Direção-Geral de Reinserção e Serviços Prisionais, 2024)

1.7.2. Electronic Monitoring in Domestic Violence Cases

In domestic violence cases, electronic monitoring contributes to victim protection by supporting compliance with no-contact orders between offenders and victims at different procedural stages, including precautionary measures, provisional suspension of proceedings, and custodial sentence suspension or accessory penalties (Direção-Geral de Reinserção e Serviços Prisionais, 2024).

1.7.3. Monitoring Technologies and Operational Procedures

Electronic monitoring in domestic violence cases relies on a range of technological devices designed to supervise compliance with judicial measures while reinforcing victim protection. Offenders are equipped with a personal identification device (electronic bracelet) and a mobile positioning unit connected to the Global Positioning System (GPS). Victims receive a victim protection unit, which they are required to carry at all times and which also operates through GPS technology. These devices enable the establishment of exclusion zones and the detection of proximity between offenders and victims, generating alerts whenever judicially imposed restrictions are breached (Direção-Geral de Reinserção e Serviços Prisionais, 2018).

By combining offender supervision with victim protection, these technologies support the practical implementation of electronic monitoring measures in domestic violence cases. Their application in this context differs from that in other types of crime, as the objectives extend beyond monitoring compliance with judicial decisions to include the prevention of further harm and the enhancement of victim safety. Monitoring systems therefore allow authorities not only to track offenders' movements in relation to victims but also to strengthen the enforcement of protective measures (Scottish Government, 2019).

Given the complexity of domestic violence and the ongoing need to improve victim protection, a range of judicial and technological responses have been developed. Within this framework, electronic monitoring has emerged as a tool intended not only to supervise offenders but also to facilitate a more rapid response to breaches of judicial restrictions and to increase the effectiveness of victim protection measures (Winter et al., 2021).

The successful implementation of electronic monitoring nevertheless depends on compliance with the conditions imposed. Non-compliance may involve both breaches of judicial restrictions and inappropriate use of monitoring equipment, including entry into prohibited areas or interference with the functioning of the devices (Rolls et al., 2024). Consequently, evaluations of electronic monitoring programmes should consider not only adherence to monitoring requirements but also outcomes related to reoffending and victim safety.

Evidence regarding these outcomes has shown promising results. In a study evaluating an electronic monitoring programme for domestic violence offenders, participation in the programme was associated with lower rates of general reoffending, domestic violence-related reoffending, and breaches of domestic violence protection orders (Boiteux & Teperski, 2023). These findings demonstrate the importance of considering both compliance and offending-related outcomes when examining the use of electronic monitoring in domestic violence cases.

These findings suggest that electronic monitoring may contribute to both offender management and violence prevention, although the mechanisms through which such effects occur require further investigation.

In Portugal, electronic monitoring may represent an important resource for protecting victims of domestic violence, although its implementation may also involve less visible implications that warrant consideration (Granja, 2021).

Furthermore, programmes may adopt different eligibility and selection criteria, taking into account offender characteristics and the nature of the relationship between the defendant and the victim (Ibarra et al., 2024). Despite the increasing use of electronic monitoring in domestic violence cases, evidence regarding the effectiveness of criminal justice interventions in reducing the recurrence of intimate partner violence remains limited (Stjernqvist & Strand, 2024). This highlights the need for continued research examining the conditions under which electronic monitoring may contribute to victim protection and violence prevention.

1.8. Current Knowledge Gaps and Rationale for the Current Study

Although offender interventions can contribute to victim protection and support offender rehabilitation, it remains unclear which approaches are most effective and whether their effects can be sustained over time. Electronic monitoring has become an increasingly important intervention in domestic violence cases, but evidence regarding the characteristics of monitored offenders and the circumstances associated with incidents occurring during the monitoring period remains limited. In Portugal, empirical research addressing these issues is particularly scarce.

Taken together, this state of the art suggests there is insufficient knowledge regarding the profiles of individuals subject to electronic monitoring and the factors that may be associated with compliance difficulties or incidents during supervision. Addressing these gaps may contribute to a better understanding of how electronic monitoring is implemented within the Portuguese criminal justice system and inform future intervention strategies.

1.9. Present Study Objectives

The main objective of this study is to characterise individuals subject to electronic monitoring in the context of domestic violence in the Porto region and to examine factors associated with the occurrence of incidents during the monitoring period.

Specifically, the study aims to: (1) describe the sociodemographic, criminological, and judicial characteristics of the individuals included in the sample; (2) characterise the occurrence of incidents recorded during the electronic monitoring period; (3) analyse the association between participation in the Domestic Violence Offender Programme (PAVD) and the occurrence of incidents during electronic monitoring; (4) examine the association between previous criminal records and the occurrence of incidents during electronic monitoring; (5) analyse the association between the type of judicial measure imposed and the occurrence of incidents during electronic monitoring; and (6) explore the association between selected criminological characteristics and the occurrence of incidents during the monitoring period.

2. Methodology

2.1. Study Design

This study employed a retrospective cohort design based on the documentary analysis of case files related to domestic violence (DV) offences supervised by the Direção Geral de Reinserção de Serviços Prisionais (DGRSP).

2.2. Proposed Study Hypotheses

The study sought to examine the following hypotheses:

- H1: Participation in the Domestic Violence Offender Programme (Programa para Agressores de Violência Doméstica [PAVD]) is associated with the occurrence of incidents during electronic monitoring.

- H2: Previous criminal records are associated with the occurrence of incidents during electronic monitoring.
- H3: The type of judicial measure applied is associated with the occurrence of incidents during electronic monitoring.

2.3. Sample

The sample comprised case files of individuals convicted of domestic violence between 2019 and 2024 who were subject to judicial measures involving electronic monitoring, including coercive measures and accessory penalties.

To identify eligible cases, the DGRSP provided a list of individuals convicted of domestic violence who were serving judicial measures under electronic monitoring. Based on this list, the corresponding case files were identified and reviewed. The sample included both male and female defendants residing in the Porto region.

2.4. Data Collection Procedures

Data were collected through the systematic review of individual case files. Prior to the data collection process, a structured data extraction protocol was specifically developed for the purposes of this study. This protocol aimed to ensure consistency in the identification, recording and organisation of relevant information across all cases.

Data extraction was conducted by the researcher using a structured data collection instrument comprising a predefined set of variables. Information obtained from the case files was subsequently entered into a Microsoft Excel database for analysis. For dichotomous variables, responses were coded as 0 (No) and 1 (Yes). Variables containing multiple response categories were assigned specific numerical codes for each category. Missing or unavailable information was coded as 99.

2.5. Variables

The sociodemographic variables included case identification number (SIPS), year of the case, age, sex, area of residence, marital status, family composition prior to the implementation of the judicial measure, housing situation, educational level, employment status and occupation.

Criminological data included the existence of prior criminal records, the relationship between the defendant and the victim, the type of violence perpetrated and the risk factors documented in the case file. The criminological and risk-related variables were derived exclusively from information contained in the official records. Consequently, the absence of a particular characteristic from the documentation should not be interpreted as evidence of its absence, but rather as an indication that it had not been recorded in the available files.

Variables relating to the implementation of the judicial measure were also collected, including the type of judicial measure imposed, participation in intervention programmes for domestic violence offenders, particularly the PAVD, and the occurrence of incidents during the period of electronic monitoring.

For the purposes of this study, incidents were defined as documented breaches of the conditions associated with electronic monitoring, including violations of exclusion zones and unauthorised contact with the victim by any means.

2.6. Inclusion and Exclusion Criteria

The study included case files meeting the following criteria: (1) conviction for domestic violence against a current or former intimate partner; (2) implementation of a judicial measure involving electronic monitoring; (3) residence within the Porto region.

Cases involving domestic violence perpetrated against family members other than a current or former intimate partner were excluded from the analysis.

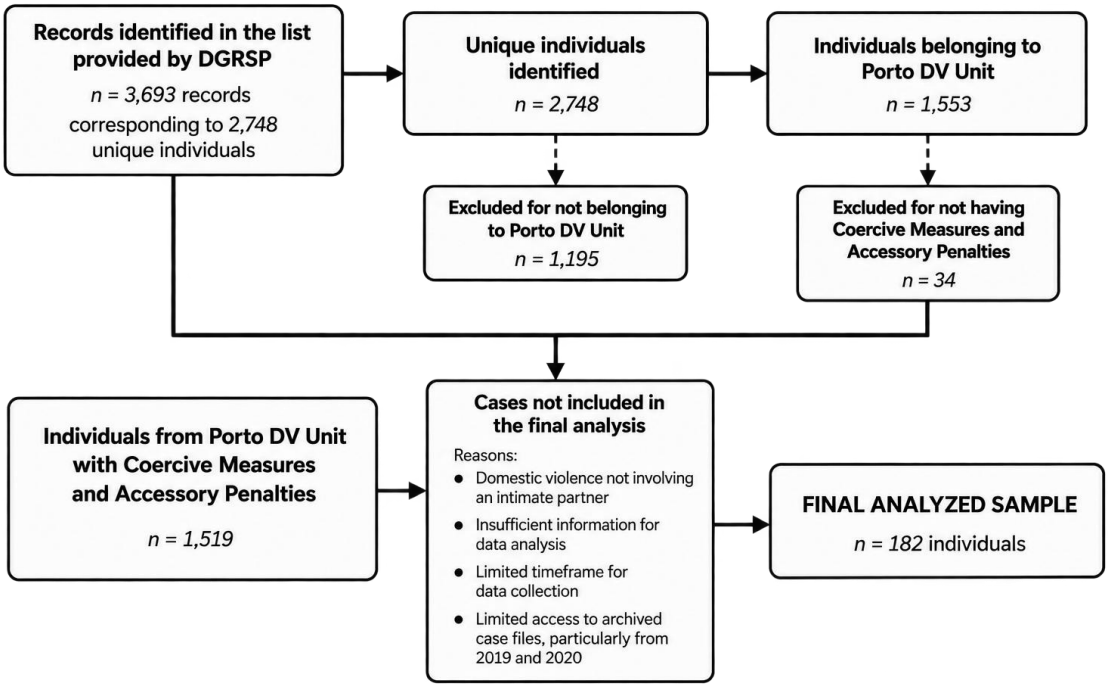
2.7. Ethical and Confidentiality Procedures

To ensure the confidentiality and anonymity of the individuals included in the study, all identifying information was removed from the dataset. Each case was identified exclusively through the SIPS case number, and data were handled in accordance with applicable confidentiality and data protection requirements.

2.8. Data Collection Period and Limitations

Data collection was conducted between September 2025 and February 2026. Due to time constraints associated with the data collection period, it was not possible to review all case files included in the list provided by the DGRSP. Additionally, fewer cases from 2019 and 2020 were available for analysis.

Figure 1. Flowchart of the identification and sample selection process.



This was primarily related to document storage procedures, as files that exceed a specified retention period are transferred to archival storage, limiting their

accessibility during the data collection phase. As a result, the final sample may underrepresent cases from the earliest years covered by the study.

2.9. Statistical Analysis

Data were analysed using IBM SPSS Statistics (Version 30). Descriptive statistics were computed to characterise the sample and the study variables. Associations between categorical variables were examined using the chi-square test or Fisher's exact test, as appropriate.

Comparisons involving continuous variables were performed using the independent-samples t-test or the Mann-Whitney U test, depending on the distribution of the data. Normality was assessed using the Shapiro-Wilk test, and homogeneity of variances was evaluated using Levene's test.

A multiple logistic regression analysis was conducted to identify factors associated with the occurrence of incidents during the electronic monitoring period. Statistical significance was established at $p \leq .05$.

3. Results

3.1. Sample Characterization

A total of 182 participants were included. Participants were predominantly male (98.4%), with a mean age of 47.6 years (SD = 14.2). Most were employed and had previously cohabited with the victim and children. Further sample characteristics are presented in Table 1.

Table 1 - Sample Sociodemographic Distribution (N=182)

	N	%
Age (M; SD)	47,6	14,2
Sex		
Male	179	98,4
Female	3	1,6
Marital Status		
Single	70	38,5
Married	71	39,0
Divorced	14	7,7
Widowed	3	1,6
Education		
Primary	34	18,7
Middle	50	27,5
Secondary	11	6,0
Higher	4	2,2
Housing		
Apartment	68	37.4
House	56	30,8
Rented	5	2,7
Other	3	1,6
Employment Status		
Employed	111	70,0
Unemployed	14	7,7
Retired	26	14,3
Student	1	0,5
Previous Household Composition		
Lived with victim and children	81	44,5
Lived with victim and others (extended household)	16	8,8
Did not cohabit with victim	12	6,6

3.2. Criminological and Risk Factors

This section presents the criminological characteristics and risk factors identified in the sample, including criminal records, types of violence, substance use, mental health problems, and dysfunctional childhood experiences (Table 2).

Table 2 - Distribution of Criminological Characteristics and Risk Factors

	No		Yes	
	N	%	N	%
Criminal Records				
Criminal record	133	73,1	27	14,8
Violent record	143	78,6	17	9,3
Domestic violence record	154	84,6	6	3,3
Traffic record	147	80,8	13	7,1
Substance record	159	87,4	1	0,5
Violence				
Physical	22	12,1	133	73,1
Sexual	140	76,9	15	8,2
Psychological	0		155	85,2
Economic	152	83,5	3	1,6
Total				
1 type			22	12,1
2 types			116	63,7
3 types			16	8,8
4 types			1	0,5
Alcohol and Drugs				
Alcohol	104	57,1	50	27,5
Drugs	139	76,4	15	8,2
Others				
Dysfunctional Childhood	137	75,3	17	9,3
Mental Health	147	80,8	7	3,8
Measure type				
Coercive Measures			114	62,6
Accessory Penalty			68	37,4
Incidents	139	76,4	43	23,6
PAVD	129	70,9	53	29,1

Previous criminal records were documented in 14.8% of the case files, while violent offence records were documented in 9.3%. Previous domestic violence records were documented in 3.3% of the case files. Traffic-related records were documented in 7.1%, while substance-related records were documented in 0.5%.

Analysis of the case files revealed that psychological violence was the most prevalent form of abuse, being documented in 85.2% of cases, followed by physical violence, which was identified in 73.1% of the sample. In contrast, sexual violence was reported less frequently (8.2%), while economic violence was the least common form, appearing in only 1.6% of cases. Examination of the co-occurrence of different forms of violence indicated that multiple forms of abuse were common. Specifically, two types of violence were documented in 63.7% of the case files, whereas one type was identified in 12.1% of cases, three types in 8.8%, and four types in 0.5%.

Regarding offender characteristics, alcohol consumption was documented in 27.5% of cases, while drug use was recorded in 8.2%. A history suggestive of a dysfunctional childhood environment was reported in 9.3% of the sample, and mental health problems were documented in 3.8% of cases.

With respect to the judicial measures applied, coercive measures represented the majority of cases (62.6%), whereas accessory penalties accounted for 37.4% of the sample. Participation in the Domestic Violence Offender Programme (PAVD) was documented in 29.1% of cases, while 70.9% of individuals had not participated in the programme.

Finally, analysis of compliance with electronic monitoring measures showed that incidents were recorded in 23.6% of cases, whereas no incidents were documented in the remaining 76.4%. These findings suggest that, although most participants complied with the conditions imposed during the monitoring period, a substantial proportion of cases involved breaches requiring formal registration.

3.3. Inferential Analysis

This section presents the inferential analyses conducted to examine the associations between selected variables. Associations between categorical variables were examined using Fisher's exact test, as appropriate, to evaluate the proposed hypotheses.

3.3.1. Hypothesis 1: Participation in PAVD and Incidents

The first hypothesis examined the relationship between participation in PAVD and the occurrence of incidents during electronic monitoring. Fisher's exact test was used to assess whether the occurrence of incidents differed according to participation in the programme.

Table 3 - Association between PAVD Participation and Incidents

		Incidents		
PAVD		No	Yes	Total
No	Count	95	34	129
	% within PAVD	73,6%	26,4%	100,0%
Yes	Count	44	9	53
	% within PAVD	83,0%	17,0%	100,0%
Total	Count	139	43	182
	% within PAVD	76,4%	23,6%	100,0%

No statistically significant association was found between participation in PAVD and the occurrence of incidents (Fisher's exact test, $p = .249$).

Among participants who did not participate in PAVD, 26.4% had documented incidents, whereas incidents were documented in 17.0% of the participants who attended the programme. Although the proportion of incidents was lower among individuals who participated in PAVD, the observed difference did not reach statistical significance.

3.3.2. Hypothesis 2: Criminal Record and Incidents

The relationship between previous criminal records and the occurrence of incidents during electronic monitoring is depicted in table 4.

Table 4 - Criminal Record and Incident occurrence

			Incidents		
			No	Yes	Total
Criminal Record	No	Count	98	35	133
		% with in Criminal Record	73,7%	26,3%	100,0%
	Yes	Count	24	3	27
		% with in Criminal Record	88,9%	11,1%	100,0%
Total		Count	122	38	160
		% with in Criminal Record	76,3%	23,8%	100,0%

Fisher's exact test was used to assess possible associations. No statistically significant association was found between previous criminal records and the occurrence of incidents during electronic monitoring (Fisher's exact test, $p = .135$).

Among participants without previous criminal records, 26.3% had documented incidents. Incidents were documented in 11.1% of the participants with previous criminal records. Although the proportion of documented incidents was lower among participants with previous criminal records, the observed difference did not reach statistical significance.

3.3.3. Hypothesis 3: Measure Type and Incidents

The third hypothesis examined the relationship between the type of measure applied and the occurrence of incidents during electronic monitoring. Fisher's exact test was used to assess whether the occurrence of incidents differed according to the type of measure applied.

Table 5 - Association Between Measure Type and Incidents

		Incidents		
Measure type		No	Yes	Total
Coercive	Count	87	27	114
	% within measure type	76,3%	23,7%	100,0%
Accessory Penalty	Count	52	16	68
	% within measure type	76,5%	23,5%	100,0%
Total	Count	139	43	182
	% within measure type	76,4%	23,6%	100,0%

No statistically significant association was found between the type of measure applied and the occurrence of incidents (Fisher's exact test, p = 1.000).

Among participants subject to coercive measures, 23.7% had documented incidents, whereas incidents were documented in 23.5% of the participants subject to accessory penalties. The proportions were very similar across both groups.

3.3.4. Additional Analyses

Additional exploratory analyses were conducted to examine whether age and the number of violence types differed according to the occurrence of incidents during electronic monitoring.

Table 6 - Age and Violence Types According to the Occurrence of Incidents

	No		Yes		
	M	SD	M	SD	Sig.
Age	48,39	14,44	45,14	13,44	.192
Types of violence (total)	1,96	,50	2,00	,58	.922

The mean age was 48.39 years (SD = 14.44) among participants without recorded incidents and 45.14 years (SD = 13.44) among those with recorded incidents. This

difference was not statistically significant, t(180) = 1.309, p = .192. Regarding the number of violence types, the mean number was 1.96 (SD = 0.50) among participants without recorded incidents and 2.00 (SD = 0.58) among those with recorded incidents. No statistically significant difference was found between the groups (U = 2124.5, p = .922).

3.4. Multiple Logistic Regression

A multiple logistic regression analysis was performed using criminal history and types of violence as independent variables and the occurrence of incidents during electronic monitoring as the dependent variable. Criminal record, violent record, domestic violence record, traffic record, substance record, physical violence, sexual violence, and economic violence were included in the model.

Table 7 - Possible Predictors of Incidents During Electronic Monitoring

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	Criminal record	-18,295	11307,59	,000	1	,999	,000
	Violent record	18,945	11307,59	,000	1	,999	168861269,3
	Domestic record	-1,210	1,42	,718	1	,397	,298
	Traffic record	-19,746	10038,29	,000	1	,998	,000
	Substance record	-1,843	41753,28	,000	1	1,000	,158
	Physical violence	-,048	,57	,007	1	,934	,954
	Sexual violence	-,422	,72	,342	1	,559	,656
	Economic violence	1,905	1,26	2,269	1	,132	6,720
	Constant	-1,017	,53	3,615	1	,057	,362

The overall logistic regression model was not statistically significant, $\chi^2(8) = 12.459$, p = .132, and no statistically significant associations were identified between the variables included in the model and the occurrence of incidents

during electronic monitoring. The Hosmer–Lemeshow test did not indicate evidence of poor model fit, $\chi^2(3) = 0.244$, $p = .970$.

Some variables presented extreme coefficients and large standard errors, which may be related to the small number of cases observed in some categories and should be considered when interpreting the model estimates.

4. Discussion

The main objective of this study was to characterise individuals subject to electronic monitoring in the context of domestic violence, considering their sociodemographic, criminological, and judicial characteristics. The study also examined factors associated with the occurrence of incidents during electronic monitoring.

Considering the findings obtained, the results provide further insight into the characteristics of individuals subjected to electronic monitoring measures in cases of domestic violence. Although the analysed associations did not reach statistical significance, the findings suggest the need for further investigation into the factors associated with the occurrence of incidents during electronic monitoring. These findings contribute to a better understanding of individuals subject to electronic monitoring in the context of domestic violence.

The following sections discuss these findings in relation to previous research and explore their implications for the understanding of domestic violence offenders under electronic monitoring.

4.1. Sociodemographic and Criminological Characteristics

Regarding sociodemographic characteristics, the analysed sample showed a clear predominance of males as the main perpetrators of domestic violence crimes. This finding is consistent with previous research reporting a predominance of male perpetrators in intimate partner violence. Focusing specifically on intimate partner homicide, a Swedish study also identified a male predominance among perpetrators, with 82.8% of offenders being male and 17.2% female (Carlsson et al., 2021). However, this comparison should be interpreted cautiously, as the study by Carlsson et al. (2021) focused specifically on intimate partner homicide, while the present study included domestic violence cases subject to electronic monitoring. Although women represented only a small proportion of the sample, their presence shows that electronic monitoring in domestic violence cases was not exclusively applied to male perpetrators.

Considering the educational level of the individuals analysed, the sample showed a predominance of low and intermediate levels of education, with a very small percentage of individuals with higher education. These findings are consistent with the literature reviewed on this topic. In a study conducted with male perpetrators accused of intimate partner violence referred by judicial authorities, a similar predominance of lower educational levels was identified among the individuals analysed, with less representation of individuals with university degrees (Sehlikoğlu et al., 2025). Although the studies were conducted in different contexts, both identified a predominance of lower educational levels among the individuals analysed. The similar pattern found in both studies shows that lower educational levels were also common among perpetrators analysed in different populations.

Most individuals were employed, which appears consistent with Sehlikoğlu et al. (2025) who identified a low proportion of unemployed individuals among IPV perpetrators. However, these authors also found that almost half of the analysed

sample had a low economic status (Sehlikoğlu et al., 2025). Economic status was not directly assessed in the present study, making it difficult to determine whether a similar situation was also present in this sample. Although most individuals were employed, this information alone does not provide a clear indication of their economic situation.

Alcohol consumption was documented in a moderate proportion of the analysed case files. Even so, the literature has demonstrated an association between alcohol consumption and the perpetration of intimate partner violence. In a joint analysis of data from different studies conducted in African countries, higher levels of alcohol consumption were associated with a greater probability of committing acts of violence by an intimate partner among male individuals (Ramsoomar et al., 2021). Information regarding alcohol consumption was obtained from the case files and was not available for all individuals. The proportion identified in the present study reflects only the information documented in these records and may not reflect alcohol consumption across the entire sample.

Illicit drug consumption was documented in a small proportion of the analysed case files. However, previous studies have identified an association between problematic substance use and violence in intimate relationships. Through interviews with men undergoing treatment for substance use and with a history of intimate partner violence, found that substance use was frequently associated with the exacerbation of conflicts and episodes of violence in intimate contexts (Gilchrist et al., 2023). These differences may reflect variations in the characteristics of the analysed populations or differences in the information available on substance use. In their study, however, the participants were receiving treatment for substance use, which may explain why this factor was more evident than in the present study.

Criminal records were not predominant in the sample. No significant association was found between previous criminal records and incidents during electronic

monitoring. Participants with previous criminal records showed a lower proportion of documented incidents, although this difference was not statistically significant. A study comparing male perpetrators of intimate partner violence who violated protective orders with those who did not found that previous convictions for other crimes were more frequent in the group that violated the protective orders (Herrera & Amor, 2024).

Mental health problems were documented in only a small proportion of the analysed case files. However, the literature has also demonstrated the presence of psychological symptomatology in individuals involved in intimate partner violence, namely symptoms of depression, anxiety, and affect dysregulation. For example, in a study it was identified higher levels of depression, anxiety, and affect dysregulation in certain groups of offenders (Dodier-Lemay et al., 2025). This difference may be related to the limited availability of mental health information within the analysed case files. In the present study, mental health problems were based on the information available in the case files, rather than on a direct assessment of these symptoms. This may have contributed to the low proportion of mental health problems identified in the sample.

Regarding dysfunctional family contexts during childhood, this information was documented in only a small proportion of the analysed case files. However, the literature has demonstrated a possible association between exposure to violence during childhood and the perpetration of violence in intimate relationships in adulthood. Sehlikoğlu et al. (2025) in their study, were able to verify that individuals who had been exposed to family violence during childhood were more likely to later perpetrate violence against their intimate partner (Sehlikoğlu et al., 2025). In the present study, information about dysfunctional childhood contexts was obtained from the case files and was only documented for a small number of individuals. For this reason, the low proportion found in the present sample should be interpreted with caution.

While these findings contribute to the understanding of the sociodemographic and criminological profile of the individuals included in the sample, the following section focuses on judicial measures, intervention programmes, and their relationship with incidents recorded during electronic monitoring.

4.2. Judicial Measures and Intervention Strategies

Focusing on judicial measures and intervention programmes applied in domestic violence cases under electronic monitoring, the analysis of participation in intervention programmes and the type of measure applied may contribute to a better understanding of their potential relationship with the occurrence of incidents during electronic monitoring.

Previous research has also examined intervention programmes for domestic violence offenders. The decision to refer offenders to social reintegration programmes was associated with unemployment and drug abuse (Vieira-Pinto et al., 2022). Previous research has reported lower levels of recidivism following intervention programmes, with promising findings also reported for risk-need-responsivity approaches (Travers et al., 2021).

Regarding the judicial measures applied, coercive measures represented the majority of the cases analysed, while accessory penalties were less frequent. Participation in PAVD was also identified in less than one third of the sample. These results describe the main judicial measures and intervention strategies identified in the sample. They also provide context for the analysis of the relationship between these variables and the occurrence of incidents during electronic monitoring. Incidents were documented in 23.6% of the cases analysed.

However, not all incidents necessarily represented intentional non-compliance with the monitoring conditions. Some could occur unintentionally, for example when an individual entered a restricted zone, while others could involve an

attempt to approach or contact the victim. This distinction should be considered when interpreting the occurrence of incidents in the present study.

4.3. Hypothesis Discussion

The following sections discuss the results obtained for each of the proposed hypotheses. The findings are interpreted based on the statistical analyses conducted and their relevance to the objectives of the present study. Together, these analyses provide the basis for evaluating the proposed hypotheses within the context of the present study.

4.3.1. PAVD and Incidents (H1)

Regarding participation in the Domestic Violence Offender Programme (PAVD), no statistically significant association was found between participation in the programme and the occurrence of incidents. Nevertheless, a lower proportion of participants with documented incidents was observed among those who attended PAVD compared with those who did not participate.

The absence of statistical significance means that the observed difference should be interpreted cautiously and does not allow conclusions about whether participation in PAVD influences the occurrence of incidents during electronic monitoring.

Erez et al. (2012) examined programme violations, contact violations and re-arrests among offenders subject to different electronic monitoring technologies. Although the outcomes differed, both studies focused on events occurring during the period of electronic monitoring. In the present study, a lower proportion of participants with documented incidents was observed among those who participated in PAVD, although this difference did not reach statistical significance. Fewer programme violations were reported among offenders monitored using GPS technology compared with those monitored using radio-

frequency monitoring (Erez et al., 2012). Such prior findings of Erez et al. (2012) provide a relevant context for interpreting the present results, while acknowledging the differences between the outcome measures.

4.3.2. Criminal Records and Incidents (H2)

The second hypothesis examined the association between previous criminal records and the occurrence of incidents during electronic monitoring. No statistically significant association was found between these variables.

Participants with previous criminal records showed a lower proportion of documented incidents. However, this difference was not statistically significant and should therefore be interpreted with caution.

Criminal history provides information about previous involvement with the criminal justice system. However, in the present study, previous criminal records did not appear to differentiate participants according to the occurrence of documented incidents.

Further studies with larger samples and additional variables are needed to explore this relationship and to identify factors that may be associated with incidents during electronic monitoring in domestic violence cases.

4.3.3. Measure Type and Incidents (H3)

Regarding the type of judicial measure applied, no statistically significant association was found between measure type and the occurrence of incidents during electronic monitoring.

The present findings indicate that the occurrence of incidents was similar among participants subject to coercive measures and those subject to accessory penalties.

Although no statistically significant association was identified between the type of judicial measure and the occurrence of incidents, these findings should be interpreted in light of the literature reviewed in the present study.

The literature reviewed in the present study has mainly focused on the overall effectiveness of electronic monitoring or comparisons with other forms of supervision, rather than on comparisons between different judicial measures implemented within electronic monitoring programmes. Consequently, direct comparison with the present findings is limited. Further research is needed to examine whether different types of judicial measures are associated with the occurrence of incidents during electronic monitoring.

4.4. Multiple Logistic Regression

The multiple logistic regression analysis did not identify statistically significant associations between the variables included in the model and the occurrence of incidents during electronic monitoring. These findings indicate that, within the analysed sample, criminal history and the types of violence considered in the model were not significantly associated with the occurrence of recorded incidents during electronic monitoring.

A previous study showed that offenders with a history of criminal convictions were more likely to violate protection orders and engage in further intimate partner violence while these measures were in place (Gambetta & Vanoli-Imperiale, 2025). In the present study, however, the criminal history variables included in the model were not significantly associated with the occurrence of incidents during electronic monitoring.

Physical violence was also not significantly associated with protection order violation in the same study (Gambetta & Vanoli-Imperiale, 2025). This finding is similar to the present study, where physical violence was not significantly associated with the occurrence of incidents during electronic monitoring.

A study conducted in the context of electronic monitoring for domestic violence considered different aspects of offenders and their circumstances when examining outcomes related to monitoring. The analysis included factors related to individual characteristics, offending patterns and risk, suggesting the value of a broader approach when examining these outcomes (Boiteux & Teperski, 2023).

Overall, the regression analysis did not identify statistically significant associations between the variables included in the model and the occurrence of incidents during electronic monitoring. Some variables showed large coefficients and standard errors due to the small number of cases in some categories, which makes these estimates difficult to interpret. Other factors not considered in the present analysis may also be relevant to these incidents. Future studies including additional individual, contextual, and judicial factors may help to better understand the occurrence of incidents during electronic monitoring.

4.5. Study Limitations

The findings of the present study should be interpreted in light of several limitations. These limitations are primarily related to the characteristics of the sample, the availability of information within the consulted records, and the methodological design adopted. Recognising these constraints is important for ensuring a balanced interpretation of the results and for identifying directions for future research.

The study was based on the retrospective analysis of case files, which limited the information available for analysis. As the variables of interest were predefined before data collection, some case files were excluded because they did not contain sufficient information on the variables selected for the study. Furthermore, several of the included case files contained substantial amounts of missing data for specific variables. As the analysis relied on information available in the case files, some characteristics could not be assessed because the relevant information

was not documented in the records. Consequently, the number of valid cases varied across analyses, which may have reduced the statistical power to detect potential associations between variables.

An additional limitation relates to the availability of case files from 2019 and 2020. Although the sample included cases from those years, some records had already been transferred to archive storage and were no longer available in their original case-file format. This may have contributed to the smaller number of cases included from 2019 and 2020 and may have affected the representativeness of the sample across the study period.

The characteristics of the sample should also be considered when interpreting the findings. The sample included only individuals subject to electronic monitoring in the Porto region, and not all case files were available for analysis. Therefore, the findings may not be representative of individuals subject to electronic monitoring in other regions or judicial contexts.

Another limitation concerns the interpretation of incidents during electronic monitoring. These incidents did not always represent intentional non-compliance with the monitoring conditions. Therefore, this should be considered when interpreting the results of the present study.

4.6. Practical Implications and Future Research

The findings of the present study provide relevant information regarding the characteristics of domestic violence offenders subject to electronic monitoring measures. A better understanding of these characteristics may be useful for professionals involved in the supervision and management of individuals subject to electronic monitoring.

From a practical perspective, criminal history remains an important characteristic to consider when assessing individuals involved in domestic violence cases.

However, in the present study, previous criminal records were not associated with the occurrence of incidents during electronic monitoring. These findings suggest that criminal history should be considered alongside other characteristics when assessing individuals subject to electronic monitoring.

Beyond offender characteristics, the present findings also provide relevant insights into the implementation of electronic monitoring measures. The findings also demonstrate that incidents occurred among individuals subject to different types of judicial measures, showing that incidents can occur under different types of judicial measures throughout the implementation of electronic monitoring measures. Although participation in PAVD was not significantly associated with the occurrence of incidents, a lower proportion of participants with documented incidents was observed among those who participated in the programme, suggesting the potential relevance of intervention programmes within domestic violence offender management strategies.

Future research should seek to replicate the present study using larger samples and participants from different geographical regions. Expanding the sample may contribute to a more comprehensive understanding of domestic violence offenders subject to electronic monitoring measures and increase the generalisability of the findings.

Further studies could also adopt longitudinal designs to examine outcomes beyond the monitoring period and explore the long-term relationship between electronic monitoring, intervention programmes, and offender behaviour. Additionally, the inclusion of a broader range of criminological, social, and psychological variables may contribute to a more detailed understanding of the factors associated with incidents during electronic monitoring.

Ultimately, further research in this area may support the development of more evidence-informed strategies for the supervision and management of domestic violence offenders subject to electronic monitoring.

5. Conclusion

The present study aimed to characterise individuals subject to electronic monitoring in the context of domestic violence in the Porto region and to analyse factors associated with the occurrence of incidents during the monitoring period. The sample was predominantly male, with a mean age of 47.6 years, and most individuals were employed. Coercive measures were more frequently applied than accessory penalties, and incidents during electronic monitoring were documented in 23.6% of the cases analysed.

No statistically significant associations were found between the occurrence of incidents and participation in PAVD, previous criminal records, or the type of judicial measure applied. Although the proportion of incidents was lower among participants who attended PAVD, this difference was not statistically significant. The proportion of incidents was also similar between individuals subject to coercive measures and those subject to accessory penalties. In addition, the multiple logistic regression analysis did not identify significant associations between the variables included in the model and the occurrence of incidents.

Overall, the results indicate that the variables examined in the present study were not significantly associated with the occurrence of incidents during electronic monitoring. Other individual, contextual, or judicial factors may therefore be relevant to understanding these incidents. It is also important to consider that documented incidents did not always represent intentional non-compliance with the monitoring conditions.

The present study provides information about individuals subject to electronic monitoring for domestic violence and about incidents documented during the monitoring period. Further studies with larger samples and participants from different regions are needed to explore other factors that may be associated with these incidents. This may help to improve the understanding of electronic monitoring in domestic violence cases.

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