

Challenges and Legal Solutions of Electronic Monitoring-Based Incarceration: A Comparative Study of Iran and Leading Countries

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Abstract

Leading countries in the field of electronic monitoring-based incarceration, such as France, Canada, and the United States, have effectively utilized this approach through comprehensive legislation and the adoption of advanced technologies. This study, conducted using a descriptive-analytical method, presents a comparative analysis of Iran and leading countries and offers recommendations for drafting comprehensive laws, developing infrastructures, and fostering public awareness. The findings indicate that the successful implementation of this method depends on integrating electronic monitoring with principles derived from situational crime prevention theories, deterrence justice, social control, and rational choice theory. For Iran, adopting these approaches can significantly enhance criminal policies and mitigate implementation challenges. The experience of France demonstrates that electronic monitoring can serve as an effective tool in reducing prison overcrowding, facilitating rehabilitation, and enhancing social security. Related legal frameworks, such as Loi Perben II and Article 723-7 of the French Code of Criminal Procedure, have clearly established the necessary legal foundations for leveraging the benefits of this system. This experience can serve as a model for other countries, particularly Iran, to improve judicial efficiency through the adoption of this method. Additionally, similar to France's 2019 Domestic Violence Prevention Law, Iran can utilize electronic monitoring to restrict offenders' contact with victims and enhance victim safety. By enacting comprehensive legislation, developing technological infrastructures, and integrating electronic monitoring with rehabilitation programs, Iran can effectively employ this approach within its criminal justice system. A comparative analysis of the United States, Canada, and the United Kingdom, alongside Iran's existing challenges, further reveals that public awareness campaigns and specialized workforce training are also essential for the successful implementation of this system in Iran.

Keywords: electronic monitoring, Iran, France, Canada, United States, challenges and solutions.

Received: 16 August 2024
Revised: 10 September 2024
Accepted: 25 October 2024
Published: 16 November 2024



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Citation: Asgari Niasar, M., Habibatbar, M., & Moradi, S. (2024). Challenges and Legal Solutions of Electronic Monitoring-Based Incarceration: A Comparative Study of Iran and Leading Countries. *Legal Studies in Digital Age*, 3(4), 14-24.

1. Introduction

Electronic monitoring-based incarceration, as one of the judicial system's innovations in recent decades, is considered an effective alternative to traditional imprisonment. This method not only helps reduce incarceration costs and alleviate prison overcrowding but also prevents the negative consequences of imprisonment, such as stigmatization and the severance of social and familial ties. Despite these advantages, the implementation of electronic monitoring faces several challenges, including legal and legislative issues, technological infrastructure, and social resistance.

In Iran, electronic monitoring has not yet been widely implemented and is primarily applied in a limited scope to specific groups of convicts. In contrast, in leading countries, this method has become a fundamental component of criminal justice management. Leading nations such as the United Kingdom, the United States, and Canada have integrated electronic monitoring into their penal policies since the 1990s. These countries have enacted comprehensive legal frameworks, such as the *Criminal Justice Acts of 1991 and 2003* in the United Kingdom and the *Electronic Monitoring Act* in the United States, to establish the necessary legal and technical infrastructure for implementing this system.

France is another leading country in the application of electronic monitoring-based incarceration. Since the early 2000s, France has adopted this approach as part of its criminal policy. The *2005 Law on Sentences and Freedoms under Electronic Monitoring* provided the legal foundation for this program, enabling the widespread use of electronic monitoring for low-risk offenders, conditional releases, and as an alternative to short-term imprisonment. By developing technological infrastructure, such as advanced electronic bracelets and precise monitoring networks, France has achieved benefits including prison overcrowding reduction, cost savings, and the preservation of convicts' social ties.

One of the most notable aspects of France's experience is the integration of electronic monitoring with rehabilitation and behavioral correction programs, facilitating the successful reintegration of convicts into society and serving as an effective model for other nations. The defining characteristics of leading countries include a transparent legal system, continuous evaluation of effectiveness, and the development of advanced technologies in this field.

Therefore, these countries are recognized as successful models in utilizing electronic monitoring. A comparative study of Iran's electronic monitoring system with those of leading nations can serve as a powerful tool for identifying existing challenges in Iran. This comparison provides deeper insight into the legal, operational, and social weaknesses of Iran's system and establishes a solid foundation for proposing practical and effective solutions.

The central question of this research is: What legal and operational challenges hinder the widespread implementation of electronic monitoring in Iran, and what solutions can be proposed based on the experiences of leading countries? This article aims to conduct a comparative analysis of this subject and propose solutions tailored to Iran's legal and cultural context for improving the implementation of electronic monitoring.

2. Concepts and Theoretical Foundations

2.1. Electronic Monitoring

The precise definition of *electronic monitoring* refers to placing an individual under electronic surveillance at their residence. Essentially, it is a form of house arrest or confinement within a designated area that is monitored electronically. Electronic monitoring is also referred to as *electronic tagging*. The term *electronic monitoring* is a translation of *Electronic Monitoring* and has entered French legal terminology as *Surveillance électronique*. It is widely used in Anglo-Saxon legal systems and is synonymous with *electronic bracelet monitoring*, a term preferred by the French public. The precise meaning refers to placing an individual under electronic surveillance at their residence (Javizadeh & Miraei, 2004).

In Iranian criminal law, electronic monitoring-based incarceration is recognized as a method for enforcing pre-trial detention orders and as an alternative to custodial sentences. A *pre-trial detention order* refers to a judicial decision issued by a competent legal authority during preliminary investigations or court proceedings, which may apply to the accused or other individuals.

This type of sentencing, which has a relatively recent history in European and some American legal systems, has only recently been introduced into Iran's judicial system. It is applicable to individuals convicted of offenses punishable by *discretionary (Ta'zir) sentences* ranging from two to eight years of imprisonment.

Electronic monitoring seeks to establish a novel approach to imposing restrictions and controlling offenders, particularly in cases such as domestic violence. This program allows for the integration of *mobility restrictions* with community-based sentencing and enables courts to issue electronic monitoring orders based on specified conditions. Moreover, this approach facilitates the proper implementation of electronic monitoring for released prisoners and ultimately evaluates the behavior of convicts participating in the program (Salehi & Arefian, 2017).

Electronic monitoring has two crucial aspects; it cannot be viewed solely as a punitive tool or merely as a rehabilitative and corrective measure—it encompasses both elements simultaneously.

In French law, electronic monitoring is defined as *Surveillance Électronique* and is used as an alternative to traditional imprisonment or as part of the sentencing execution process. The *2005 French Law* defines electronic monitoring as a method for restricting convicts' movement within a designated area under electronic surveillance. The primary objective of this legislation is to reduce prison overcrowding and support the social reintegration of convicts.

In the United States, electronic monitoring is referred to as *Electronic Monitoring (EM)* and involves the use of electronic devices to monitor the movement of convicts or defendants within a specified range. This method is utilized in cases such as parole, probation, and domestic violence prevention. Technologies such as electronic bracelets and GPS tracking devices are used to monitor individuals' locations.

In the United Kingdom, electronic monitoring is defined as *Electronic Monitoring* and serves as a tool for regulating convicts' movements within the frameworks of parole, suspended sentences, or alternatives to incarceration. This method was officially introduced in the *Criminal Justice Act of 1991* with the aim of controlling low-risk offenders and assisting in their social rehabilitation.

In Canada, electronic monitoring, also known as *Electronic Monitoring*, is used as a supervisory tool for low-risk offenders and individuals enrolled in parole or suspended sentence programs. This monitoring is conducted through advanced technologies such as GPS or radio frequency systems, with the objective of maintaining public safety and reducing prison overcrowding.

2.2. *Electronic Monitoring and Criminological Theories*

Electronic monitoring, as an innovative tool in criminal justice systems, serves as an alternative to incarceration, primarily aimed at mitigating the negative effects of imprisonment, facilitating rehabilitation, and preventing recidivism. This tool has gained significant recognition in contemporary criminological theories, particularly labeling theory and rehabilitation theory. Both theories seek to minimize the social and psychological consequences of punishment and create conditions that support the successful reintegration of convicts into society.

Labeling theory, developed by Frank Tannenbaum and later expanded by Howard Becker, is based on the premise that formal or informal labeling reinforces criminal behavior. According to this theory, when an individual is labeled as a criminal, society excludes them from normal interactions, reinforcing their criminal identity (Becker, 1963). Electronic monitoring, by serving as an alternative to incarceration, prevents convicts from being placed in prison environments, which are known to reinforce criminal identity. This method helps maintain the convict within their social environment, preventing the severance of social and familial relationships and thus avoiding or weakening criminal labeling. In the United Kingdom, electronic monitoring has been applied to minor offenses, such as petty theft and domestic violence, preventing individuals from being incarcerated and thus avoiding formal labeling (Nellis, 2015, 2024). In Canada, electronic monitoring programs for juvenile offenders have facilitated their reintegration into schools and society, preventing informal labeling within educational settings (Harris, 2020).

On the other hand, rehabilitation theory emphasizes that the primary goal of punishment should be to reform offenders and reintegrate them into society rather than merely punishing them (Cullen & Gendreau). This theory highlights key factors influencing criminal behavior, such as education, employment, and psychosocial support. Electronic monitoring, by allowing convicts to maintain social ties and employment, provides opportunities essential for rehabilitation. Additionally, this method

enables the integration of monitoring programs with vocational training and psychological counseling. In France, electronic monitoring programs have been combined with professional training, requiring convicts to participate in skill development courses while under supervision (Beiranvand, 2016). In the United States, electronic monitoring has been implemented alongside mandatory treatment programs for drug offenders, significantly reducing recidivism rates (Foroughi & Irani, 2016).

However, these theories have also been subject to criticism. For instance, while electronic monitoring prevents formal labeling, it may still lead to informal labeling within social and familial environments if monitoring information is disclosed. Moreover, the success of rehabilitation depends on integrating electronic monitoring with other supportive programs; without such programs, monitoring could become merely a control mechanism rather than a rehabilitative tool.

Beyond labeling and rehabilitation theories, several other criminological theories can be linked to electronic monitoring-based incarceration. These theories address various objectives and functions of electronic monitoring and contribute to a more comprehensive understanding of its role in criminal justice policies in leading countries.

- **Situational Crime Prevention Theory:** Developed by Ronald Clarke, this theory focuses on reducing crime opportunities through environmental control and restricting offenders' freedom of movement. It posits that modifying physical and social environments can decrease criminal motivations and minimize crime occurrences (Clarke, 1983). Electronic monitoring aligns with this theory by restricting convicts' movements and controlling them through technological means. By implementing such restrictions, the opportunities for committing crimes are reduced, thereby limiting criminal behavior. For example, in the United Kingdom, the Criminal Justice Act 2003 incorporated electronic monitoring to confine convicts to specific areas, preventing reoffending. Similarly, in many U.S. states, this form of monitoring is used for domestic violence offenders to prevent contact with victims.
- **Deterrence Theory:** This theory asserts that the fear of punishment plays a preventive role in reducing crime. It distinguishes between two types of deterrence: general deterrence (instilling fear of punishment in society to prevent crime) and specific deterrence (discouraging an individual offender from reoffending) (Becker, 1963). Electronic monitoring-based incarceration, due to continuous surveillance and the use of technologies such as GPS tracking, instills a constant sense of control in convicts. This persistent monitoring acts as a specific deterrent, reducing the likelihood of reoffending. In France, electronic monitoring has been particularly utilized in domestic violence cases to prevent unauthorized contact with victims (Clarke, 1983). Likewise, in Canada, electronic monitoring programs focus on preventing recidivism by issuing instant alerts for any violations of monitoring conditions (DeMichele & Payne, 2009).
- **Social Control Theory:** Introduced by Travis Hirschi, this theory argues that strong social bonds with family, school, and the community play a crucial role in preventing criminal behavior. According to this theory, the disruption of social relationships is one of the primary reasons individuals engage in crime (Hirschi, 1969). Electronic monitoring supports this theory by allowing convicts to remain in their familial and social environments instead of being incarcerated, thereby reinforcing social ties. This approach prevents social isolation and facilitates reintegration. In the United Kingdom, electronic monitoring programs have been applied to juvenile offenders to ensure they remain connected to their families and educational institutions (Bales & Piquero, 2012). In France, this method has been implemented for female convicts with family responsibilities, enabling them to care for their children and maintain familial relationships.
- **Rational Choice Theory:** This theory suggests that criminals make calculated decisions before committing crimes, weighing the costs and benefits of their actions. If the cost of committing a crime is high, the likelihood of criminal behavior decreases. Electronic monitoring increases the psychological and legal costs of committing crimes by enhancing the probability of detection. This increased likelihood of detection discourages offenders from engaging in criminal behavior. Research in the United States has shown that the use of advanced GPS technologies and real-time alerts has improved monitoring effectiveness and reduced offenders' motivation to violate supervision conditions (Cornish & Clarke, 1986). In Canada, this method is also applied to financial and economic crimes, increasing the risk and cost of financial offenses.

These criminological perspectives provide valuable insights into the diverse functions of electronic monitoring in modern criminal justice systems. They highlight how this method serves not only as a punitive measure but also as an instrument for rehabilitation, crime prevention, and social reintegration.

3. The French Experience: Integrated Monitoring and Family-Centered Approach

Electronic monitoring-based incarceration in France, as one of the country's criminal justice innovations, has several advantages that have positioned France as a pioneer in implementing this approach. One of the primary objectives of electronic monitoring in France has been to reduce prison overcrowding and the financial burden of inmate maintenance. The *March 9, 2004 Law (Loi Perben II)* officially introduced electronic monitoring as part of France's criminal policy, establishing it as a suitable alternative to short-term imprisonment. By using electronic bracelets, convicted individuals can serve their sentences at home, reducing government expenditures and allowing for greater allocation of resources to rehabilitation and correctional programs (Marquet, 2010).

Electronic monitoring in France enables convicts to remain in their homes or social environments, preserving their familial and social bonds. Article 723-7 of the French Code of Criminal Procedure (*Code de procédure pénale*) defines electronic monitoring as a tool designed to maintain social relationships and mitigate the negative effects of imprisonment. This feature is particularly significant for female convicts and individuals with family responsibilities, such as those caring for children (Hucklesby, 2024, p. 93).

Another key advantage of this system is its role in reducing social labeling and reinforcing rehabilitation. The *June 15, 2000 Law (Loi Guigou)* specifically addresses the rights of convicts under electronic monitoring, preventing unnecessary stigmatization. Electronic monitoring prevents individuals from entering prison environments where their criminal identity could be reinforced. This approach also facilitates a gradual reintegration into society (Nellis, 2015, 2024).

France utilizes electronic monitoring as part of its rehabilitation programs, requiring convicts to participate in educational courses, vocational training, or counseling sessions. Article 132-26 of the French Penal Code (*Code pénal*) emphasizes the necessity of integrating electronic monitoring with corrective and supportive measures. This strategy helps convicts acquire new skills and gradually reintegrate into society (Bales & Piquero, 2012).

Electronic monitoring systems in France are particularly applied in cases of domestic violence. Under this system, offenders are restricted from contacting their victims. The *December 28, 2019 Law (Loi visant à agir contre les violences au sein de la famille)* underscores the use of electronic monitoring for preventing domestic violence, enhancing victim safety, and reducing incidents of domestic abuse (Petit & Sorel, 2020).

Two significant judicial rulings highlight France's efforts in public awareness and legitimization of this modern sentencing method. The first case is the Paris Court of Appeal's ruling in the case of Nicolas Sarkozy (2023). In this case, the court upheld a three-year prison sentence for former French President Nicolas Sarkozy, two years of which were suspended, while one year was to be served under electronic monitoring. The French Supreme Court reaffirmed this ruling in December 2024.

The second case is the Paris Court of Appeal's ruling in the case of Jean-Claude Mas (2021). In this case, the court upheld a four-year prison sentence for Jean-Claude Mas, the founder of the PIP company, due to the production of defective breast implants. Two years of this sentence were served under electronic monitoring.

4. The United Kingdom Experience: Expansion and Flexibility

Following the implementation of offender movement restrictions in some European countries and the objections raised regarding potential conflicts with the rights of defendants and convicts, the United Kingdom's Criminal Justice Act of 1991 introduced regulations governing movement restrictions under electronic monitoring. The implementation of electronic monitoring in the UK has undergone significant developments. Initially, it was applied to juveniles and minor offenses under house arrest, but it was later extended to adults, allowing monitored individuals to move within a broader geographic scope.

The Criminal Justice Act 1991 is one of the most significant legal frameworks in the UK's judicial system, enacted to reform sentencing methods and enhance offender rehabilitation. This law was introduced in response to social and economic changes and contributed to the development of new criminal justice concepts, including electronic monitoring as a modern tool for managing and supervising offenders within society (Marquet, 2010).

Before the enactment of the 1991 Act, the UK's judicial system faced numerous challenges, including rising crime rates, increasing pressure on prisons, and the inefficiency of some traditional sentencing methods, necessitating serious reforms (Nellis, 2021, p. 144). The 1991 Act aimed to reduce dependence on long-term imprisonment and promote the use of alternative sentencing measures, including electronic monitoring.

The Offender Management Act 2007 is another key legal framework in the UK that focuses on improving criminal justice administration, particularly in offender monitoring and management. This act introduced new legal mechanisms for better community supervision and strengthened the role of various institutions involved in the post-release management of offenders. One of the most significant innovations under this act is electronic monitoring, which was formally recognized as a modern tool for supervising and rehabilitating offenders. The 2007 Act acknowledges electronic monitoring as one of the most effective tools for supervising and managing offenders after their release from prison or as an alternative to custodial sentences (Erez et al., 2024). This law was designed to reduce recidivism rates and enhance the social reintegration of offenders by incorporating electronic monitoring as part of a broader set of community-based management tools.

Additionally, Section 67 of the Criminal Justice and Sentencing Act 2012 explicitly addresses electronic monitoring and its conditions within sentencing frameworks and control measures. This section grants courts the authority to impose electronic monitoring as a supervisory condition for individuals sentenced to suspended imprisonment or probation. According to this provision, electronic monitoring can be a mandatory condition for executing a suspended sentence or probation order, provided that the court determines such monitoring is necessary for public safety and crime prevention.

Typically, electronic monitoring under this framework involves the use of electronic bracelets that allow real-time tracking of an offender's location and compliance with supervision conditions.

The Victims and Justice Protection Act 2021 is a comprehensive and pivotal law in the UK, designed to combat domestic violence and enhance victim protection. This law provides a broader definition of domestic violence and introduces an extensive range of protective and support measures for victims, reinforcing the roles of law enforcement, courts, and related institutions in addressing domestic abuse.

This legislation has introduced several key innovations in the field of electronic monitoring:

- Expansion of electronic monitoring scope: The new law extends electronic monitoring applications to counter-terrorism efforts and supervising individuals on parole, enabling authorities to use advanced monitoring technologies in highly sensitive cases.
- Enhanced inter-agency collaboration: The law facilitates greater cooperation among various institutions, including law enforcement, judicial bodies, and security agencies, in implementing electronic monitoring systems.
- Strengthening the legal framework: The law includes new provisions and regulatory updates aimed at improving the efficiency and effectiveness of electronic monitoring programs.

A notable judicial precedent concerning electronic monitoring in the UK is the case of *R (on the application of G) v. Central Criminal Court* [2020] EWHC 1588 (Admin). In this case, the court referenced Articles 3, 5, and 8 of the European Convention on Human Rights, emphasizing that electronic monitoring is a fundamental requirement for modern sentencing policies in the UK.

5. The Canadian Experience: Precise Monitoring with Supportive Measures

Electronic monitoring-based incarceration in Canada is recognized as an alternative to traditional imprisonment, offering significant benefits for convicts, the judicial system, and society. This method is implemented under both federal and provincial laws and has gained a prominent position in Canada's criminal justice policies. The key advantages of this system are outlined below.

One of the primary objectives of electronic monitoring in Canada is to reduce prison populations and the costs associated with inmate maintenance. According to Correctional Service Canada, the cost of incarcerating an inmate in federal prisons is

significantly higher than the cost of implementing electronic monitoring. This system helps alleviate the financial burden on the criminal justice system (Bonta & Andrews, 2017).

Electronic monitoring allows convicts to remain in their homes or social environments, preventing disruptions to family relationships. This feature is particularly important for individuals with family responsibilities. Section 742.1 of the Criminal Code of Canada (CCC) provides for suspended sentences under electronic monitoring conditions. Additionally, this section includes educational and counseling programs to help families better adapt to living with a convict under electronic supervision (Hucklesby, 2022, 2024).

Electronic monitoring systems in Canada, by establishing continuous supervision and movement restrictions, significantly reduce the likelihood of reoffending. These systems have been particularly effective in managing high-risk behaviors, such as traffic violations and domestic violence. The Youth Criminal Justice Act (YCJA), Section 42(2), explicitly refers to the use of electronic monitoring for juvenile offenders (Nellis, 2015). Canadian legislators believe that strict supervision enables them to monitor convicts' behaviors and predict and prevent potential high-risk actions.

Canada has also leveraged electronic monitoring systems to enhance public safety. From the perspective of Canadian lawmakers, electronic monitoring enhances public security by precisely tracking convicts' movements and issuing immediate alerts if monitoring conditions are violated. This feature is particularly critical in cases involving convicts with a history of violence. The Public Safety Act (2002) emphasizes the importance of surveillance technologies in ensuring public security (Bales & Piquero, 2016).

Another notable advantage of electronic monitoring in Canada is its integration with educational, therapeutic, and vocational training programs. This approach facilitates the rehabilitation of convicts and their successful reintegration into society. Section 134(3) of the Corrections and Conditional Release Act (CCRA) explicitly states that electronic monitoring must be combined with rehabilitation programs.

Additionally, electronic monitoring systems in Canada are particularly applied in cases of domestic violence and sexual offenses. Offenders under electronic monitoring are prohibited from contacting victims, thereby enhancing victim safety (Harris, 2020). Section 810.2 of the Criminal Code of Canada (CCC) outlines the conditions for using electronic monitoring for sexual offenders.

6. The United States Experience

Electronic monitoring-based incarceration was introduced into the United States' criminal justice policies in the 1980s as an innovative sentencing alternative. This approach has since been widely adopted across various states as an effective substitute for traditional imprisonment, offering numerous benefits.

The United States has one of the highest incarceration rates globally. Implementing electronic monitoring as an alternative to imprisonment has helped reduce prison overcrowding and lower the costs associated with inmate maintenance (Bales & Mears, 2008). The Violent Crime Control and Law Enforcement Act of 1994 recommended the use of electronic monitoring as part of efforts to reduce prison congestion.

U.S. electronic monitoring laws allow convicts to remain within their family and community environments, helping them maintain social and familial bonds. This feature facilitates their successful reintegration into society (DeMichele & Payne, 2009). The Second Chance Act of 2007 promotes the integration of rehabilitation programs with electronic monitoring.

Electronic monitoring, through technologies such as GPS tracking and real-time alerts, enables precise supervision of convicts' movements and prevention of high-risk behaviors (Gable & Gable, 2007). The Adam Walsh Child Protection and Safety Act of 2006 specifically mandates the use of electronic monitoring for sex offenders.

Additionally, the Violence Against Women Act (VAWA) of 1994 supports electronic monitoring as a protective measure for victims. Under its electronic monitoring provisions, these systems are particularly utilized in domestic violence cases across the U.S. This technology restricts offenders' access to victims, thereby enhancing victim security (Erez et al., 2024).

Like other leading countries, the United States employs electronic monitoring as an alternative for juvenile offenders or individuals convicted of minor offenses, helping to mitigate the negative impacts of incarceration on these groups. The Juvenile

Justice and Delinquency Prevention Act (JJDP) of 1974 actively promotes the use of electronic monitoring for juvenile offenders.

Furthermore, the Fair Sentencing Act of 2010 emphasizes reducing social disparities and highlights the positive impact of electronic monitoring on convicts.

According to American legal scholars, electronic monitoring reduces the need for incarceration, helping to mitigate social stigmatization and enabling convicts to reintegrate into society as responsible citizens (Nellis, 2024).

7. Iran: Challenges and Solutions

In the criminal justice systems of leading countries, particularly the United States and France, electronic monitoring can be applied before trial based on a judge's decision. It can function similarly to judicial supervision orders or as an alternative to traditional bail, particularly benefiting indigent individuals who would otherwise remain in pretrial detention (Asgari Niaser et al., 2024). The primary objective of pretrial electronic monitoring is to reduce the risk of reoffending while ensuring the defendant's compliance with court-imposed conditions.

This approach aligns with the "front door" strategy, which seeks to prevent unnecessary incarceration and minimize exposure to the criminogenic environment of detention centers. Under this system, electronic monitoring functions as an intermediate sanction—less severe than imprisonment but stricter than probation. In Europe, electronic monitoring has been used as a pretrial detention alternative, serving as a warning mechanism where failure to comply with imposed conditions results in incarceration.

In Iran, electronic monitoring was introduced into the criminal justice system for the first time under Clause (c) of Article 217 of the new Code of Criminal Procedure. This provision establishes house arrest or residence-based confinement with the consent of the accused, under electronic or non-electronic supervision, and with a financial guarantee. Given the human rights concerns and criminological critiques of pretrial detention, judicial oversight has been recognized as an alternative measure, allowing defendants to remain free while being monitored by criminal justice authorities (Beiranvand, 2016).

This approach ensures that detention is minimized, focusing instead on controlling offenders' behavior outside the formal criminal justice system. Judicial supervision, as an alternative to pretrial detention, upholds the principle of individual liberty, restricting rather than eliminating a defendant's freedom. Clause (c) of Article 217 introduces a type of house arrest enforced through electronic ankle or wrist bracelets, obliging the accused to remain at their residence. Alongside home confinement, the defendant is required to appear before judicial authorities when summoned, with financial penalties imposed for non-compliance.

However, the implementation of electronic monitoring in Iran is contingent upon regulatory approval under Article 252 of the Code of Criminal Procedure (Gholami & Khaksar, 2019). Consequently, the execution of electronic monitoring in pretrial, trial, and post-conviction stages requires specific executive regulations. Notably, these regulations were approved by the Head of the Judiciary on April 10, 2016.

While leading countries have comprehensive and progressive legislation governing electronic monitoring for convicted offenders:

- France has extensive legislation such as *Loi Perben II (2004)* and *Loi Guigou (2000)* to regulate and support electronic monitoring.
- Canada has enacted laws such as the Criminal Code of Canada (CCC) and the Corrections and Conditional Release Act (CCRA) to govern electronic monitoring.
- The United Kingdom regulates electronic monitoring through multiple legal frameworks, including the Criminal Justice Act 2003, Offender Management Act 2007, Criminal Justice and Sentencing Act 2012, Criminal Justice and Courts Act 2015, Police, Crime, Sentencing and Courts Act 2017, Victims and Justice Act 2021, and Electronic Monitoring and Sentencing Act 2022.

In contrast, Iran's legal framework for electronic monitoring remains fragmented and underdeveloped. Article 62 of the Islamic Penal Code and provisions in the Code of Criminal Procedure only provide broad references to electronic monitoring, leaving its detailed implementation ambiguous. By following the examples of leading countries, Iran could enact

comprehensive laws similar to Loi Perben II and Loi Guigou, addressing the operational details, eligibility criteria, and procedural safeguards necessary to ensure fairness and effectiveness in electronic monitoring.

7.1. Key Challenges in Iran's Electronic Monitoring System

1. Technological Limitations

- Iran lacks advanced electronic monitoring systems such as GPS-enabled electronic bracelets or real-time alert mechanisms.
- This technological gap reduces efficiency and increases operational costs.
- In Canada, monitoring systems enable precise tracking and immediate intervention if conditions are violated (Public Safety Act, 2002).
- Solution: Investing in advanced GPS-equipped monitoring devices and real-time alert systems could enhance the effectiveness of Iran's electronic monitoring program. Establishing online supervisory platforms would further improve efficiency.

2. Cultural and Social Barriers

- Public acceptance of electronic monitoring as an alternative to traditional imprisonment remains limited.
- Social stigmatization of individuals under electronic monitoring continues to be a major challenge (Foroughi & Irani, 2016).
- In France, high-profile cases like Nicolas Sarkozy's electronic monitoring sentence were used to increase public acceptance of the system.
- Solution: Raising public awareness about the benefits of electronic monitoring through media campaigns and judicial transparency could increase public trust. However, the scope of electronic monitoring must align with civil liberties and prisoners' rights.

3. Judicial Precedents and Privacy Concerns

- The United States v. Jones case (2012) serves as an important precedent for balancing electronic monitoring and privacy rights.
- In this case, the U.S. Supreme Court ruled that installing a GPS tracking device without judicial authorization violated the Fourth Amendment's protection against unreasonable searches and seizures.
- The ruling emphasized that electronic surveillance must comply with legal safeguards, reinforcing the need for judicial oversight in Iran's monitoring framework.

4. Shortage of Trained Personnel

- Unlike France and Canada, which employ social workers and technology specialists for electronic monitoring, Iran lacks adequately trained personnel.
- Solution: Providing specialized training for judges, social workers, and supervisory officers would improve the implementation and oversight of electronic monitoring.

5. Limited Application Scope

- In Iran, electronic monitoring is primarily used for pretrial detainees or convicts nearing the end of their sentences.
- In contrast, France applies electronic monitoring as an alternative to imprisonment for low-risk offenders from the outset.
- Solution: Expanding electronic monitoring eligibility to include low-risk offenders from the beginning of their sentences, reducing overreliance on incarceration.

6. Lack of Integrated Rehabilitation Programs

- Canada integrates electronic monitoring with education, therapy, and vocational training (Corrections and Conditional Release Act, Section 134).
- France requires monitored offenders to participate in training programs (French Penal Code, Article 132-26).
- Iran lacks such structured rehabilitation programs for electronically monitored individuals.

- Solution: Implementing mandatory education, vocational training, and psychological counseling programs to support offenders' successful reintegration into society.

Canada's electronic monitoring model demonstrates that a security-driven approach can effectively reduce prison overcrowding, support offender rehabilitation, and enhance public safety. Comprehensive legislation such as the Corrections and Conditional Release Act (CCRA) and the Criminal Code of Canada (CCC) has played a critical role in the success of electronic monitoring programs.

Iran can benefit from adopting Canada's approach, strengthening its legal and operational frameworks, and expanding the use of electronic monitoring beyond its current limited scope. While Iran's electronic monitoring system remains underdeveloped, Canada applies it to juveniles (YCJA, Section 42), domestic violence offenders, and sex offenders (CCC, Section 810.2). Expanding Iran's electronic monitoring system to include a broader range of offenders, integrating rehabilitation programs, and investing in advanced technologies would enhance the efficiency and effectiveness of the system, aligning it with global best practices.

8. Conclusion

Electronic monitoring, by serving as an alternative to imprisonment and providing an environment conducive to rehabilitation, aligns with the objectives of labeling theory and rehabilitation theory. This tool, particularly when combined with social and educational programs, can have a positive impact on crime reduction and facilitate successful reintegration of offenders into society. However, to fully utilize the potential of this approach, legal reforms, adequate infrastructure development, and proper training for enforcement agencies are essential.

Electronic monitoring stands at the intersection of several criminological theories and functions as an effective tool in crime reduction and offender rehabilitation. The experience of leading countries demonstrates that the successful implementation of this method relies on integrating electronic monitoring with principles derived from situational crime prevention theory, deterrence justice, social control theory, and rational choice theory.

For Iran, adopting these approaches can significantly improve criminal policies and address implementation challenges. The French experience illustrates that electronic monitoring can effectively reduce prison overcrowding, facilitate rehabilitation, and enhance social security. Related legal frameworks, such as *Loi Perben II* and Article 723-7 of the French Code of Criminal Procedure, have provided a clear legal foundation for the benefits of this system. This experience can serve as a model for other nations, particularly Iran, to enhance the efficiency of their judicial systems through this approach.

Similarly, as seen in France's 2019 Domestic Violence Prevention Law, Iran could implement electronic monitoring to restrict offenders' contact with victims and enhance victim security. By enacting comprehensive laws, developing technological infrastructure, and integrating electronic monitoring with rehabilitation programs, Iran can effectively employ this system within its criminal justice framework. Additionally, public awareness campaigns and training for specialized personnel are crucial for the successful implementation of electronic monitoring in Iran.

Canada has also effectively utilized electronic monitoring systems to reduce incarceration costs and prevent recidivism. Federal laws such as the Corrections and Conditional Release Act and Section 742.1 of the Criminal Code of Canada explicitly define the legal framework for these systems. The integration of electronic monitoring with educational and vocational training programs serves as a successful multi-faceted model in Canada.

In the United States, electronic monitoring, supported by advanced technologies such as GPS tracking and real-time alerts, has not only enhanced public security but also facilitated offender reintegration. Comprehensive legislation, including the Second Chance Act and the Violence Against Women Act, has strengthened the application of electronic monitoring in areas such as domestic violence and preventing unauthorized contact between offenders and victims.

In Iran, challenges such as the lack of comprehensive legislation, inadequate technological infrastructure, and a shortage of trained personnel hinder the effective utilization of electronic monitoring. Additionally, cultural and social concerns, particularly regarding public acceptance and the social stigma associated with electronic monitoring, present further obstacles to its implementation.

Electronic monitoring, by serving as an alternative to incarceration and providing an environment suitable for rehabilitation, aligns with the objectives of criminological theories such as labeling theory, situational crime prevention, and rehabilitation

theory. The experience of leading countries demonstrates that this tool can effectively reduce crime rates, enhance public security, and facilitate the reintegration of offenders into society.

By learning from these experiences and implementing the proposed recommendations, Iran can benefit from the advantages of electronic monitoring and enhance its criminal justice system.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all participants who participate in this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

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