

Evidence Mishandling and Chain of Custody Failures in India

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Abstract:

In India, forensic evidence plays an important role in solving crimes and delivering justice. However, problems such as evidence contamination and broken custody chains often damage the reliability of investigations. The review synthesizes findings from recent studies (2021-2024) to provide a comprehensive overview of the problems plaguing India's forensic evidence handling. Key issues identified include improper crime scene management, documentation errors, equipment shortages, and inconsistent procedures across states. The paper also discusses the human impact of these systemic failures on victims, investigators, and the accused. This review discusses the evidence contamination and chain of custody means, the reasons behind their failures in India, real-life examples, and the serious effects on the justice system. It also offers simple solutions to improve forensic handling. By addressing these critical areas, India can significantly improve the reliability and effectiveness of its forensic processes, ultimately strengthening the integrity of its justice system. By improving training, using new technology, and building better forensic systems, India can strengthen its justice system stronger and fairer.

Keywords: Evidence Contamination, Chain of Custody, Forensic Science in India, Forensic Evidence Handling, Crime Scene Preservation.

Introduction:

Forensic evidence is used to solve crimes. Digital records, biological samples, or weapons can all be used as evidence to help find guilty and prove innocent. However, if evidence is not handled properly, it can get tainted, destroyed, or even lost. India has many of these problems because people do not get enough training, infrastructure is not good enough, and people do not know enough about the law. This review article discusses evidence contamination, the chain of custody, India's problems in maintaining proper evidence, and how evidence contamination and the chain of custody failure can affect the justice system. Evidence contamination occurs when the original state of evidence is changed by a mistake or carelessness. Examples include putting things away in dirty bags, touching blood samples without gloves, or leaving digital evidence open to change. Sharma (2021) stated that contamination can eliminate important clues that are needed to solve a crime. The chain of custody is the process that records every step that evidence goes through, from collection at the crime scene to courtroom presentation during trial. It shows who collected the evidence, how the evidence was packed, where it was stored, and who examined it. Choudhary and Sinha (2023) state that if even a step or information is missed or incorrectly recorded, then the court has the authority to reject the

evidence during trial. This review article aims to provide a comprehensive analysis of the challenges facing India's forensic evidence handling system. It examines the root causes of evidence contamination and chain of custody failures, explores their impacts through real-life case studies, and discusses the far-reaching consequences for the Indian justice system. By synthesizing recent research and expert opinions, this paper seeks to offer insights into potential solutions and reforms that could significantly enhance the reliability and effectiveness of forensic practices in India.

Literature Review:

Many studies and reports have pointed out serious problems in how forensic work is conducted in India. Sharma (2021) stated that police officers often do not know how to properly protect a crime scene. As a result, random people can walk in and mess evidence. Mishra (2021) shared that courts sometimes throw out important forensic evidence because there is no proper record showing who handled it. Without this record, evidence is questionable. Bhatia (2022) noted that many forensic labs have too few workers and equipment. Biological evidence, such as blood samples, is spoiled because there is no good storage. Verma and Dubey (2021) found that 40% of the mistakes in the chain of custody papers occur because officers rush while filling forms and do not have a proper format to follow.

Rathore and Singh (2022) explained that old Indian laws such as IPC and CrPC do not clearly explain how forensic evidence should be handled, leaving gaps that lawyers can use in court. The Ministry of Home Affairs (2022) showed that many forensic labs are not ISO 17025 certified, which makes people doubt the results. Pathak (2023) said that about 25% of wrongful convictions in India occur because the evidence was tampered with or mishandled.

Yadav and Mehra (2023) mentioned that many judges and lawyers do not fully understand forensic reports, which sometimes causes wrong decisions in court. The National Human Rights Commission (2023) reported cases in which forensic evidence simply disappeared during investigations of deaths in police custody, suggesting tampering or cover-ups. Srinivasan (2024) pointed out that digital evidence, such as CCTV videos, often gets messed up during collection because the important data (metadata) changes when handled carelessly. Banerjee and Prasad (2022) suggested that using blockchain technology could help record the movement of evidence securely, making it easier to check whether it was tampered with. Gupta (2023) observed that in famous cases, too much media attention and leaks often spoil both physical evidence and witness testimonies. Mehta and Rani (2024) discussed that poor communication between police and forensic teams causes delays, which weakens the strength of the case. Jain (2023) stated that forensic labs should be independent from the police to ensure that investigations remain fair and honest.

Kulkarni (2024) highlighted that forensic rules are not the same across all Indian states, which creates confusion during national investigation. Choudhary and Pillai (2022) found that many first responders are not trained properly, so they mishandle evidence before experts can check it. Deshmukh (2023) studied real cases whichever evidence bags were not sealed or labeled correctly, causing the courts to reject the evidence. Nair (2024) pointed out that forensic labs

have a big backlog, and sometimes, evidence that needs quick testing (such as blood samples) goes bad while waiting. Reddy and Thomas (2023) stated that police and forensic teams do not receive regular new training, so many still follow old and outdated ways of handling evidence. Thus, all these studies clearly show that India needs changes at every step of handling the crime scene and proper evidence collection without failure of the chain of custody.

Methodology:

To write this article, I only used the information that was already available. I have carefully read journal articles, reports from the government, and real case studies published between 2021 and 2024. I followed a step-by-step review method to collect, check, and understand all the important sources. To write this review I used google scholar, peer-reviewed, academia, and other sources to extract information. The study is limited to secondary data and does not include primary interviews or field observations, which may affect the depth of insight into current forensic practices on the ground.

Discussion:

Behind every piece of evidence lies a human story - whether it is a grieving family seeking justice or an accused person fighting to prove innocence. When evidence is contaminated or its chain of custody breaks down, these stories can take tragic turns. Thinking about police officers who lack proper training. As Mitra and Singh (2023) discovered, nearly two-thirds of the evidence collectors across five Indian states have never received formal forensic training. This is not just a statistic; it represents thousands of crime scenes where crucial evidence might be accidentally compromised by well-meaning officers simply doing their best with limited knowledge.

This struggle extends to forensic labs, where technicians often work with outdated or insufficient equipment. Kumar and colleagues (2024) painted a concerning picture: in two-thirds of district-level labs, dedicated professionals attempt to preserve critical evidence without basic tools like proper refrigeration units. Imagine that as a lab technician watching biological evidence deteriorates before your eyes, knowing that it might mean that a victim never sees justice. Inconsistent procedures across different states create another layer of frustration. Patel and Reddy (2024) revealed that police officers and forensic experts must navigate a confusing patchwork of different protocols depending on their location. This creates unnecessary stress and uncertainty for professionals who wish to work effectively. These systemic failures can be devastating for victims and their families. When Gupta (2023) found that nearly half of criminal cases had an incomplete chain of custody records, each of those cases represented real people waiting for a resolution that might never come because of paperwork problems.

Real-life Case Examples

The Aarushi Talwar Case (2008): The crime scene was not secured, leading to lost and disturbed evidence (Choudhary & Sinha, 2023). **Jessica Lal Case (1999):** Important bullets and guns were misplaced; the chain of custody broke down (Kumar & Jain, 2022). **Sushant Singh Rajput Case (2020):** Postmortem and scene investigations were questioned for irregularities (Ministry of Home Affairs, 2022). The human costs became clear in **Maharashtra v. Pramod Kumar case (2024)**, where DNA evidence was rejected due to chain of custody issues. Behind that legal decision were victims left without closure and investigators who watched their hard work unravel in court.

The forward path must center on the supporting humans in this system. Electronic tracking systems that have reduced custody failures by 78% in the UK (Johnson & Williams, 2024) are not just technological solutions; they are tools that can help dedicated professionals maintain the integrity of evidence that determines people's fate.

Conclusion:

To improve India's forensic system, a few important things need to be considered. First, police officers, forensic experts, and investigators must receive regular training so they know how to handle evidence correctly. Using technology such as digital tracking can also help maintain better records of who handled the evidence at each step. Forensic labs need more people working and better equipment to do their jobs properly. India should also have one set of clear rules for everyone to follow across the country, and regular checks (audits) should be conducted to catch mistakes early. Additionally, there should be stronger laws with real punishment when someone is careless with evidence. If all of these things are done, the forensic process in India will become stronger and will help to give justice properly.

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