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RESEARCH ARTICLE

A Bioethical Analysis of Forensic Misconduct in Indian Rape Trials Based on Autonomy, Non-Maleficence, Veracity, and Dignity

Sejal Shaha[1*], Debarati Halder[2]

Abstract

Since the 2013 Criminal Law Amendment Act, forensic evidence in Indian rape trials has assumed a central role. This paper offers a bioethical examination of common misconduct in forensic practice through the four principle framework of autonomy, non-maleficence, veracity, and dignity. Drawing on statutory provisions, Supreme Court jurisprudence, institutional audits, and detailed case studies from diverse settings, it documents recurrent delays in medico-legal examinations, disruptions to the chain of custody, mishandling of biological specimens, and coercive procedures. These issues are assessed against ethical obligations to respect survivor choices, prevent secondary harm, maintain truthful documentation, uphold personal dignity, and support testimonial reliability. The analysis supports targeted reforms, including clear offences for documentation falsification, digital custody tracking, specialist forensic nursing, trauma-informed clinical protocols, and an independent ethics oversight authority. By aligning forensic practice with constitutional guarantees and ethical standards, the study offers practical guidance for policy makers and practitioners.

Keywords: Forensic misconduct; Bioethics; Indian rape trials; Autonomy; Non-maleficence; Veracity; Dignity; Ethical principles

Introduction

When a rape trial opens in an Indian court today the first evidence often arrives on paper rather than through a witness box: the file may include a sealed chain of custody sheet, a chromatogram from the laboratory or a printout of a mitochondrial DNA profile. This prominence of scientific paperwork can be traced to the Criminal Law (Amendment) Act 2013 which widened the statutory definition of rape, shortened evidentiary deadlines and instructed judges to treat medico-legal reports as primary proof instead of supplementary material. Section 184 of the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) (mirroring Section 164 A of the Code of Criminal Procedure) now directs a registered medical practitioner to examine the survivor without unnecessary delay, as well as to mark the exact start and finish times and to record explicit consent inside the report . Courts have begun reading those procedural requirements not only as administrative obligations but also ethical commitments; in July 2025 the Punjab & Haryana High Court gave an ordered that mandated all government doctors submit medico-legal reports within 48 hours, after observing how unnecessary delays had a disrupting effect on investigations and also worsened the distress of the survivors. The court noted that such lapses, though usually dismissed as clerical errors, have the potential of weakening forensic credibility and can erode public trust in medical neutrality. In this way the technical artefacts of forensic medicine have taken on a second function. They now stand not just as evidence in a legal file but also as a reflection of whether public institutions are actually capable of responding to suffering with urgency, care and respect for dignity. This study views the situation through that ethical frame and defines forensic fraud as any occasion when biological material or expert testimony is invented, altered or selectively read to support a preferred narrative. The definition covers blatant wrongdoing such as adding unrelated male DNA to a vaginal swab and also more subtle procedural lapses like

[1]PhD Candidate, Parul Institute of Law, Parul University, Vadodara, Gujarat, India

[2]Professor, Parul University, Vadodara, Gujarat, India

***Corresponding Author:** Sejal Shaha, PhD Candidate, Parul Institute of Law, Parul University, Vadodara, Gujarat, India, E-mail: advt.shaha@gmail.com

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failing to chill samples or hiding measurement error. With conviction rates for rape still below 30 percent in several states, pressure to secure a conviction can push overworked hospitals and police laboratories to present theatrical displays of science in place of genuine analysis. A sobering 2023 study by J. Lakshmi Charan reveals a crisis at the heart of the forensic system. After examining nearly three decades (1992-2021) of Supreme Court judgments in rape and murder cases, the study found that in more than a third of them, forensic samples were badly mishandled, stored improperly, or contaminated. These were not isolated mistakes. They were the predictable outcomes of a system strained by staff shortages, broken chain-of-custody procedures, and unreliable storage that allowed critical errors to become the norm. In case after case, crucial biological evidence arrived at labs degraded beyond use, sometimes because it was moved without refrigeration or essential paperwork had disappeared. What this pattern suggests is that shortcuts are born not just from an individual's recklessness, but from an environment that demands too much from people with too little. In such a system, fraud becomes less an act of pure deception and more a symptom of deep institutional exhaustion. Based on these findings this study reframes forensic malpractice as a profound ethical violation, one that harms not only the individual survivor but the integrity of the justice system itself.

The legislative responses since 2013 have sought to eliminate older indignities, including the Supreme Court's unambiguous ban on the two-finger test, an invasive procedure that used to be conducted to ascertain "habituation" to sex and thus discredit the complainant. In 2022 the Court found that any one who carries out the test is guilty of professional misconduct as the practice is based on no science and is degrading. They are judgments that represent a transition from procedural form to moral content: the harm is not just that the evidence is unreliable, it is that the survivor's body is insulted as a site for speculation about her sexual history. Most hospitals are required to retain foetal tissue for DNA analysis if a late-term pregnancy follows an attack, but must do so while not subjecting the survivor to additional scans or coercive questions. That such shifts in doctrine can occur indicate that courts no longer consider scientifically accurate and informed consent along with respectful treatment to be separable. Thus, ethical failure coincides with evidentiary failure and vice versa.

Psychological research on rape trauma highlights the personal cost of institutional failure. Rape-trauma syndrome, a variant of post-traumatic stress disorder, can persist long after physical wounds heal; about 94% of women show PTSD symptoms within 2 weeks of assault and many remain symptomatic for months or years . Studies inside India add further despair when survivors perceive the medico-legal process as hostile or pointless, reporting higher levels of depression, social withdrawal and case withdrawal. Guidance from the Cleveland Clinic notes that avoidance, distrust and self-blame intensify when survivors feel re-victimised by agencies expected to help . Research by Meena and colleagues conducted in a hospital setting found that many survivors experienced the medico-legal process as deeply distressing. Long waits, lack of privacy, and poorly explained procedures left them feeling exposed and powerless. In ethical terms, forensic malpractice turns a place meant for healing into a source of secondary harm, breaking the rule of non-maleficence even when no physical force is applied. The evidence confirms that reliable science is not a distant ideal but a baseline requirement for survivor cooperation and mental stability. Identifying the bases of the four principles formulated by the bioethicists Beauchamp and Childress: respect for autonomy through obtaining informed consent, the duty to do no harm, commitment to be truthful, and safeguarding human dignity. These principles together offer a well-established structure for evaluating professional conduct in ethically sensitive areas of medicine, particularly those involving vulnerable individuals. It was first described in the Principles of Biomedical Ethics published in 1979 by Tom L. Beauchamp and James F. Childress and has since been widely accepted as the gold standard framework for both clinical and academic discussion of ethical issues in healthcare. The framework presents a set of orienting questions: Does the practice honor the patient's choices? Does it avoid preventable harm? Does it present facts accurately? All too often, these patients tell me, it does not. In forensic medicine, including sexual assault examinations, these principles are challenged.

Materials And Methods

This study adopts a bio-legal and qualitative doctrinal methodology. The research combines statutory interpretation, judicial analysis, forensic ethics review, and examination of institutional reports relating to medico-legal practices in rape trials in India.

Step 1: Relevant statutory provisions including the Bharatiya Nyaya Sanhita, Bharatiya Nagarik Suraksha Sanhita, Bharatiya Sakshya Adhiniyam, Mental Healthcare Act, and Criminal Law Amendment Act were analysed.

Step 2: Supreme Court and High Court judgments concerning forensic misconduct, survivor dignity, consent, and evidentiary procedures were critically reviewed.

Step 3: Secondary data including institutional audits, academic journal articles, hospital-based studies, government reports, and forensic literature were comparatively evaluated.

Step 4: The collected material was interpreted using the four-principle framework of biomedical ethics (autonomy, non-maleficence, veracity, and dignity) proposed by Beauchamp and Childress.

Step 5: The findings were comparatively analysed to identify ethical failures, institutional gaps, psychological consequences, and possible legal reforms.

Observation/Results

Part II: Bioethical and Institutional Failures in Medico Legal Practice

Indian criminal law grapples with a central paradox: the courts place enormous faith in forensic science, yet the investigative system itself neglects the procedures that give science its authority and credibility. In a rare moment of clarity, the Supreme Court confronted this issue head-on in its 2023 Prakash Nishad v. State of Maharashtra decision . By tracing the "evidentiary lineage" of a DNA swab, the Court noted that a scientific result is not a disembodied fact but a fragile artefact of its handling. In overturning a conviction based on a broken chain of custody, the Court set a vital precedent, even if it remains an outlier. Independent research confirms that such lapses as were found in the case are the norm. Dinkar's 2015 study, for example, found 318 cases where initial state DNA reports were so flawed that independent re-testing led to acquittals. Sawhney's 2024 work goes on to reveal how investigators routinely collect samples without written consent, rendering the evidence legally fallible from the start . As D'Souza et al. argue, this entire system rests on a weak foundation, that is the lack of a national ethics statute. This regulatory void allows for an unregulated flow of biological material, creating a system where a forensic culture of convenience actively erodes the personal liberty guaranteed by Article 21. Beyond outright manipulation of evidence which would draw too much attention, there lies a far more subtle corruption of the truth that occurs when investigators manipulate genuine records after the fact. The Aarushi Talwar investigation is the definitive study of this process in action . When the original medico-legal register vanished and new slides with mixed DNA profiles appeared, investigators created an epistemic fog that reshaped the entire crime narrative. This was not simple contamination; it was a demonstration of how destroying an original, verifiable record allows doubt and competing theories to poison a case. The Delhi High Court affirmed this persistent structural weakness in July 2025 when it mandated new Standard Operating Procedures for sample referrals to curb such paperwork irregularities. D'Souza's nationwide study shows just why the court had to step in, revealing that most hospitals still use unreliable felt-tip pens instead of secure barcode tracking . Without a digital chain of custody, even the dead cannot escape a compromised identity, a point highlighted by Vaswani, Caenazzo, and Congram in their research on mass-disaster identification. This technological gap inherently creates a class divide. Dinkar's work shows that wealthy litigants can afford to challenge every line of a custody sheet, a luxury the poor can never access which is an affront to Article 14 of the Constitution, while the ethical problem deepens when authorities retroactively twist consent given for medical care into consent for a criminal investigation.

Coercive pressures from the state further compromise the purported objectivity of forensic work. In the case of Selvi v. State of Karnataka (2010) the court had given a definitive ruling in regards to narcoanalysis, polygraph testing and other methods likened to it to be constitutionally impermissible without the subject's voluntary and informed consent . However, the state's fascination with narcoanalysis, as Lokaneeta's 2023 analysis explains, represents a turn towards chemical interrogation that directly challenges the protection against self-incrimination in Article 20(3). Despite the ruling, there are still deployments of these tactics in investigations. This can be seen in Gujarat's Directorate of Forensic Sciences which confirms that between the late 2022 and 2024, there had been at least 75 narcoanalysis deployment and 226 voice stress analyses which were conducted . This practice places clinicians in an impossible position. Vaswani, Shenoy, and Ifeanyichukwu report that these doctors receive no clear ethical guidance, creating a void where they equate mere compliance with professional duty. The pressure goes beyond cooperation to outright suppression. Dogra et al. have documented how doctors who accurately report custodial injuries risk punitive transfers and professional harassment. Mohanty et al.'s 2023 study corroborates this, finding that one in five pathologists admit to changing autopsy findings after receiving "requests" tied to the deceased's social influence. This erosion of professional independence was brought into public light in 2024, when the Supreme Court took suo motu cognizance after the murder of a postgraduate doctor in Kolkata. This case was closely linked to reported resistance against institutional interference, which only highlights the dangers that are faced by medical professionals in high stakes proceedings. These facts all come together to paint a frightening reality: every claim of scientific truth operates under the threat of violence. Testimony produced in this climate violates not only the duty of non-maleficence but also the principle of fidelity, as expert opinion begins to parrot the state's narrative instead of objective fact.

The issue of resource scarcity cannot be simply dismissed as a simple administrative problem; it is a structural issue that very well dictates how, and if, ethical duties are met. One clear example is cited within the 2021 study by the ICMR and FMES, which found that in several public hospitals across the states of Maharstra and Telangana, survivors of sexual assault were unfortunatelty turned away, made to wait for hours or refereed elsewhere simply because there were no available trained stadd on duty or the examination kits were incomplete or expired. As Dixit et al. warned, new laws like the Bhartiya Nyaya Sanhita and Bhartiya Sakshya Adhiniyam

may address digital evidence, but statutes alone do not keep forensic freezers running or supply unexpired reagents for lab tests. Dinkar's equipment surveys show districts where serology labs operate with expired chemicals, making every analysis a gamble. As a balancing opinion, Sawhney cautions that shiny new sequencing units will gather dust without parallel investment in the people who run them. Additionally, Basu traces this deep-seated neglect back to colonial-era budgets that favoured presidency towns, a pattern of inequity that modern India has failed to reverse. This systemic failure is a clear breach of the ethical duty of non-maleficence and, by forcing a traumatised victim to cross a district for a working colposcope, a flagrant violation of the human dignity protected by Article 21. A further destabilizing factor is made manifest in institutional silence, which has a tendency to distribute responsibility unevenly.

DISCUSSION

Part III: Victim Retraumatization and the Moral Costs of Forensic Abuse

When a rape survivor reaches a government casualty ward, she carries bodily pain and emotional shock; the institutional choreography that follows should ease both, yet too often it does the opposite. Murmu and her team spoke directly with survivors and found that many experienced the medical process not as care, but as another layer of trauma. Some reported feeling blamed, exposed, or deeply anxious during their forensic exams. Their findings make it clear that when systems don't prioritize dignity, they risk doing harm all over again. That pattern persists despite the Supreme Court's categorical ban on the two-finger test, a diagnostic relic whose continued use in some districts illustrates how judicial pronouncements can stall at the threshold of everyday practice. The gap between norm and reality becomes stark when one recalls that Section 184 of BNS obliges completion of the medico-legal exam "without unnecessary delay," tying procedural speed to evidentiary integrity . Delay nevertheless persists: in 2025 the Delhi High Court condemned a thirteen-day wait for ultrasound scans as "secondary violence," linking bureaucratic inertia to Article 21's guarantee of dignity and personal security . Lillu @ Rajesh v. State of Haryana had already declared the same test "unconstitutional," framing dignity as a non-derogable post-assault right , yet the judgment's spirit appears diluted in day-to-day triage rooms. The empirical picture is therefore corroborated by doctrine: institutional negligence can qualify as a constitutional tort under the Nilabati Behera line of cases, exposing the State to liability even without overt malice. Civil hospitals acting under police requisition further implicate principles of vicarious liability, because subordinate acts fall within a delegated sovereign function. In that light, non-maleficence is breached not solely by cruel intent but also by routineised neglect, and any "consent" extracted amid coercive waiting rooms and invasive protocols remains both legally defective and morally hollow. The examination table thus becomes a second crime scene, reproducing bodily subordination under the colour of clinical legitimacy.

An assault by a stranger is a crime the law understands. An assault by the very system designed to deliver justice, however, is a betrayal of a different magnitude altogether. It's a structural wound, and to grasp it, there is a need to look at what psychologists like Jennifer Freyd call "betrayal trauma" . The idea is simple but impactful: harm is considered to be exponentially worse when it comes from the entity that was supposed to be your shield. This is one of those experiences one would hope is just a theory but it's mirrored in Karki's review of medico-legal records, where survivors were often left to navigate delayed exams, missing documentation, and neglect that felt less like error and more like abandonment . And what the human stories suggest, the data confirms with cold precision.Studies from researchers like Naik and Kumari and Lahav et al. all point to the same conclusion and that is when survivors are left without steady care or meaningful follow-up, the harm does not stop at the assault. It grows in the silence that follows, as trust in institutions fades and core psychological functions like memory, safety, and emotional stability begin to unravel. But what is most compelling in the research is that this crushing outcome isn't a given, it's a choice. Rosenthal's work notably demonstrates that when an institution offers genuine support, it can actually promote post-traumatic growth, shifting the entire conversation from inevitable harm to institutional responsibility. The law, which sometimes can be slow at catching up appears to be finally catching up to this reality. In Nipun Saxena v. Union of India, the judiciary affirmed that dignity under Article 21 is not a "mere" suggestion but a duty the State must actively uphold. When this constitutionally mandated duty is breached, the psychological collapse that follows can no longer be regarded as an unforeseeable event, it's a predictable result of negligence. With the Mental Healthcare Act of 2017 mandating trauma-informed care, there's now a statutory backbone to this argument, making hospitals accountable for procedural harm. This line of argument concludes at a logical step: to recognise this betrayal as a direct legal injury, forcing institutions to finally reckon with the cost of their failure. The psychological fallout can no longer be dismissed as an unfortunate side effect. It is the injury. It is the very thing the law must learn to see and to remedy.

The ordeal for a survivor rarely ends at the police station; often, the courtroom is where the secondary damage is truly magnified. In the courts, a misplaced and almost reverential faith in flawed science can be turned into a weapon against a person's own memory. The problem that this flows from often begins with the workings of law itself, in Section 39

of the Bharatiya Sakshya Adhiniyam, 2023 (BSA) (which mirrors section 45 of the Indian Evidence Act) there is a significant tilt towards expert opinion, although this arises more from judicial practice rather than statutory mandate. In their study of a high-security forensic hospital, Roberts and colleagues show how professionals often rely on official forensic reports as unquestionable evidence, even when survivors or frontline staff raise concerns about how those reports were produced. This tendency to prioritize documentation over lived experience can allow serious mistakes or biases to go unchallenged. In an instant, the survivor's own account is sidelined in favour of a "scientific" report. This isn't an isolated phenomenon. Bedera's research into university tribunals uncovers a similar pattern of "him-pathy," where the accusers are reflexively considered unreliable while the accused are framed as figures having "future potential" . The bias is so ingrained into the "system" it can potentially discredit a woman's testimony before the hearing even begins. Mateo-Fernández exposes another cruel reality in these types of scenarios: the very scientifically established neurological symptoms of trauma such as flashbacks, dissociation, fragmented memory, are frequently misinterpreted by legal actors as signs of deception. The injury itself becomes the reason to doubt the injured. The philosopher Miranda Fricker named this concept "testimonial injustice," and when placed in constitutional language, it's a clear failure of equal protection guaranteed under Article 14 and, where gender is a factor, Article 15(1). While the judiciary has the tools to correct this, the Supreme Court in State of Himachal Pradesh v. Sanjay Kumar acknowledged that trauma does indeed affect memory and reporting, this insight gaine.

The earlier sections set out a connected account that points to a sustained collapse of basic safeguards in forensic practice during rape prosecutions in India. After the 2012 Nirbhaya case, Parliament and the judiciary changed the legal position in ways that altered how courts and investigators read medical material. Section 164-A of the Code of Criminal Procedure now Section 184 of BNS [2] and the Supreme Court's 2022 bar on the two finger test [5] shifted the medico legal report from a supportive document to the centre of the prosecution's evidentiary strategy. With that shift came concrete legal and ethical duties on hospitals and forensic professionals to examine without delay, to seek and record informed consent, to protect the integrity of every specimen, and to communicate conclusions without bias or distortion. Yet published research and reported judgments from metropolitan centres such as Delhi as well as from district hospitals including those in Pilibhit continue to record routine violations of these duties. The pattern includes long waits before examination, staff who lack training or who are already exhausted, altered or poorly sealed samples, breaks in the chain of custody, and the survival of collection and documentation habits that current science and law both reject. These gaps don't affect everyone the same way. Mehta and Bishnoi show how Dalit survivors often carry the added weight of caste-based discrimination when they seek medical care. While their study focuses on caste, other survivors such as those who are Muslim or LGBTQ+ also face distinct forms of exclusion that quietly erode the fairness and dignity that constitutional protections like Article 14 are meant to uphold . Psychology research shows that when institutions betray people who seek help, trauma deepens and many withdraw from the process, which in turn feeds a culture of impunity. Courts, leaning heavily on paperwork and scientific artefacts as has been seen to be done in judicial practice, there is a tendency to set aside testimonial gaps that arise from trauma itself. In that setting, the medico legal system ceases to act as an aid to truth and instead becomes a source of epistemic silencing and moral harm. The distance between what the law now requires, what clinics actually do, and what survivors live through points to the need for a combined programme of ethical, institutional, and procedural reform.

Statutory Definition of Forensic Documentation Falsification: Current statutes do not carve out a clear offence that captures misconduct tied to forensic documentation when false statements, careless omissions, or procedural lapses touch the gathering and use of biological material. The system often files such behaviour under administrative mistake or professional negligence, without recognising how it damages evidentiary value and touches constitutional guarantees. A specific graded offence titled forensic documentation falsification should be written into the Bharatiya Nyaya Sanhita . The provision should distinguish between deliberate fabrication, reckless alteration, and negligent loss or degradation of any forensic item or record. When a court identifies such conduct, it should trigger an automatic referral to the relevant state medical council so that professional review runs in parallel to criminal liability, creating a combined track of responsibility. This change would correct the current pattern in which survivors are forced to prove that institutions maintained proper procedure, adding this offence is both timely and workable. Bringing forensic honesty into the text of criminal law would deter misconduct and communicate to the public and to survivors that truth in evidence is a core legal value. It would also give courts clearer thresholds for admissibility and for the weight they place on contested material, and it would link the treatment of forensic proof to constitutional commitments that the justice process must respect.

Digital Chain of Custody with Barcoded Evidence Kits: Weaknesses in the chain of custody continue to be a major cause of contamination, dispute, and loss of confidence. Despite reforms, many sites still depend on handwritten notes, insecure seals, and casual handovers that strip away

traceability and undermine credibility. Delhi's 2025 move to connect police stations, designated hospitals, and forensic labs through digital registries and electronic referral codes gives a template that can be scaled . Building on that example, there should be a nationwide rollout of barcoded evidence kits linked to a unique case identification number and a secure forensic ledger. Every transfer from collection to transport to analysis should be time stamped and logged in a protected national database that only a court can authorise for access. This structure mirrors traceability systems that India already uses for Aadhaar and for COVID 19 vaccine flows, which shows that both the technology.

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