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Forensic Evidence Relevance in Police Procedure And Criminal Justice Procedure

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ABSTRACT

Over the past twenty-five years, the forensic sciences have made dramatic scientific breakthroughs (DNA typing, physical evidence databases, and new scientific instrumentation) but studies are needed to assess the contribution of such advancements on the role and impact of scientific evidence in criminal case processing. Targeted studies have evaluated the value of DNA evidence in property crime investigations, but no studies have reviewed the full array of scientific evidence present at crime scenes. Multivariate analysis revealed that homicides among non-strangers and cases with witness reports were significantly more likely to result in arrests. Forensic evidence was not significant but this result was most likely due to a lack of variation in cases with and without evidence. It was found that forensic science helps in criminal investigation and assisting the criminal justice system by providing a better understanding of the criminal potentialities.

Keywords: *DNA typing, physical evidence databases, Forensic evidence, criminal justice procedure, scientific instrumentation*

1. INTRODUCTION

Forensic science is the integration of different fields of knowledge such as science, civil, social, and other constructs so that there is the resolution of civil or criminal cases scientifically.

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Forensic science differentiates between tangible evidence which is a physical item with no scientific analysis with scientific evidence which is based on analysis from various subjects such as physics, chemistry, biology, computer science, and engineering to carry out criminal investigations and procure evidence against culprits. It includes the use of different processes such as biological, latent print, pattern evidence, firearms/weapons, materials, generic objects, electronic/printed data, trace, and drug evidence, and others to investigate, record, and preserve the evidence. Forensic science plays three major roles in the criminal justice system. Firstly, it helps in establishing the different elements of the crime, secondly, it helps in collecting evidence from the suspects and accused, and third, it helps in reconstructing the crime or the crime scene which provides clarity about the entire crime episode. Forensic evidence in the criminal justice system is used for different purposes such as arresting, clearance, charging, plea negotiation, and comprehension of the jury. The evidence produced by forensic investigation under the supervision of experts helps the jury to make the right decision related to conviction and non-conviction of the accused (Sood and Kashyap, 2019). The present research examines the role of forensic evidence relevance in police procedure and criminal

justice procedure. The facts related to current and future trends of forensic evidence used in criminal justice and judicial interpretation towards scientific methods of the criminal investigation.

2. RESEARCH AIM AND OBJECTIVES

The main aim of the research is to study the criminal trial system under the shadow of forensic evidence. The other objectives of the study are as follows;

- To estimate the percentage of crime scenes from which one or more types of forensic evidence are collected.
- To describe and catalog the kinds of forensic evidence collected at crime scenes.
- To track the use and attrition of forensic evidence in the criminal justice system from
- crime scenes through laboratory analysis, and then through subsequent criminal justice processes.
- To identify which forms of forensic evidence contribute most frequently (relative to their availability at a crime scene) to successful case outcomes.

3. LITERATURE REVIEW

3.1 Current and future trends of forensic evidence used in criminal justice

According to Peters and Jordan (2019) cybercrime cases are on the rise which has created issues in the global world regarding the safety of individuals and organizations. To identify the trends of cybercrime, a study was conducted by McAfee and found that cybercrime-based cost has increased from US$ 500 billion in the year 2015 to US$ 600 billion in the year 2017. It increases the need for the implementation of forensic evidence in criminal cases and justice procedures to reduce the widespread notion of cybercrime.

Nabar (2002) examined that different forensic evidence such as fingerprint evidence, trace evidence, DNA evidence, digital evidence, drug evidence, weapons evidence, and many more. While focusing on the forensic science process to provide evidence in criminal justice, it highly depends upon the crime scene analysis. It includes evaluation of line of approach, point of entry, point of exit, line of retreat, and actual scene. The way the collected evidence is preserved and recorded also plays a major role in putting evidence in criminal justice.

Bangotra (2016) examined the forensic science process used to provide evidence in the Indian criminal justice and found that under Articles 20(3) of the Indian Constitution, an individual is deemed to be innocent, until, he/she is not found guilty. Article 11 of the Universal Declaration of Human Rights, Article provides full rights to the individual to be counted as innocent unless forcible criminal by any witness. Therefore, Article 20(3) provides a protective shield to the individual agents the testimonial compulsion and cannot be compelled to be a witness against oneself. For example, in the case of State of Bombay v. Kathi Kaluoghad & Others, it was held by the court that collecting forensic evidence such as thumb impression, semen, hair strand, specimen signature, and others from the accused could be termed as a violation of the Article 20 (3) as under Section 73 of the Indian Evidence Act. As per Section 73 of the Indian Evidence Act, the court has the authority to direct any individual including the accused to provide finger impressions if required. Therefore, the accused

possess no right to create objections in carrying out DAN assessment to speed the investigation and trial process.

Subramaniam (2020) examined the use of forensic evidence in criminal justice in the case of Ramchandra Reddy and Ors. v. State of Maharashtra and found that the legitimacy of the use of three tests such as Brain finger-printing, narco analysis, and lie detector test was upheld. The court directed SIT to execute forensic tests on the accused along with the main accused in the case of fake stamp paper scam. The court summoned that the outcomes that are provided by SIR would be heard in a special court in which the effect of narco analysis would also be admissible. On the other hand, in the case of Selvi & Ors v. State of Karnataka & Anr, the court questioned the application of Articles 20(3) of the Indian Constitution and summoned that forensic evidence such as brain mapping and polygraph was inconclusive. As a result, the usage of the forensic process of evidence could not be considered as a violation of the fundamental right of the individuals and can be compulsorily used in the criminal investigation.

Sarkar and Singh (2018) analyzed that the applicability of the forensic science process to provide evidence in Indian criminal justice and found that in some cases the forensic evidence is not validated. For example, in the case of Dinesh Dalmia v State, the Madras High Court, the court summoned that witnesses that are produced with the help of forensic process are not conclusive. The forensic science-based narco-analysis evidence was not testified by compulsion. Objections laid by the court in the usage of forensic evidence increase the need to bring amendments in the Indian criminal justice system to increase the validity of the evidence that is collected from different forensic processes.

Molina and Hargrove (2018) examined that modifications have been brought in the Code of Criminal Procedure, 1973 in the year 2005 to encourage the use of forensic process-based evidence in the criminal justice cases. For example, Section 53 of the Criminal Procedure Code 1976 allows medical examination of the accused on reasonable grounds. It includes carrying out different forensic processes such as semen test, swab test, hair sample test, fingernail test, sweat test, DNA test, and others to collect relevant evidence. Modifications are brought under 164A Code of Criminal Procedure, 1973 and Sec. 2(h) Indian Medical Council Act, 1956 so that DNA profiling of the victim and accused is carried out based on consultation with a medical practitioner.

3.2 Role and Impact of Forensic Science Evidence

Forensic science plays a crucial role in finding out the culprit as it permits the jurisdiction work on everything so as not only to think about a person doubtful of committing a crime but also to find out the time and way of occurrence of crime. According to the National Institute of Justice, forensic science is that area where science is used to solve legal issues by matching DNA of a human being, understanding the pattern of blood smudge, and to find put the composition of unknown drug.

In forensic science, autopsy is used as a method to collect the evidences in the form of body fluids and tissues for the analysis of purpose and the method used for murder. Another method of collecting proofs in forensic science is examination of those clues that are collected in material form like fingerprints, blood, hair etc from the criminal site.

Sister Abhaya murder case (1995) Kerala-The Sister Abhaya Case is a case related to the death of a Knanaya Roman Catholicnun, who was found dead in a water reservoir in St Pius X convent in Kottayam, India, on 27 March 1992. Different forensic methods like Narco-analysis, Brain Mapping, Polygraphic tests were used to collect evidences to settle the case. With the help of these tests, it was found that two priests were culprits of the rape and murder of sister Abhaya.

In the cases where suspects of crime are not known, the prosecution can collect DNA evidences from the criminal site so as to find out the suspects related to the crime. With the help of DNA evidences, it is possible to find out the precise date and time of crime. The case of Priyadarshani Matoo was the case of rape and murder but Indian Legal System was confused about considering the DNA evidences relevant with the case. In the middle of the case, judges decided to trust DNA evidences and they proved right when DNA tests came to be positive. In this way, forensic science helped victim in getting justice.

In the case where the person is murdered and only human debris are found, the left over skeleton and teeth are used to find out the identity of the body.

Tandoor Murder Case (1995) Delhi - The first case in India, in which forensic science was used to solve the case. In this case, wife of Shusil Sharma was murdered by him by shooting her with gun due to the misconception of her illegitimate affair. After shooting her, Sharma took body of her wife to the restaurant where Sharma and manager of the restaurant tried to burn her body in tandoor. Police took Sharma's gun and his clothes having blood stains on them in its custody. Both the collected evidences were then sent to Lodhi Road forensic laboratory. Blood samples of in laws of Sushil Sharma i.e. Harbhajan Singh and Jaswant Kaur were also collected and sent to forensic lab in Hyderabad for a DNA test. As it was not possible to indentify the body, DNA test helped to find out that the body was wife of shusil sharma, the DNA report said, "after testing evidences, there is no doubt in this that the burnt body is of Naina Sahni who is biologically daughter of Mr. Harbhajan Singh and Jaswant Kaur." And finally Mr. Shusil Sharma was found responsible with the assistance of forensic proofs (Khan and Ahad, 2018).

Another method of evidence collection with the help of forensics is weapons testing, or ballistics, through which it is also possible to find out the weapon if any used in murder. For example if it is found that a individual murdered and his injury matches with the .45 caliber handgun, it becomes easy for investigators to search for the database related to .45 handgun.

Aarushi Talwar murder case (2013) Noida - AarushiTalwar the famous murder case, in which the 14-year-old girl whose parents were successful dentists, was found dead with cleavage on her neck at her home JalvayuVihar in Noida. It was doubted that their servant Yam Prasad Banjade alias Hemraj, a 45 year old person and resident of Nepal who was living with them but was absent from the day of murder might have murdered her. Afterwards, evidences were collected and with the help of forensic science, Aarushi's own parents were found guilty of her murder.

Forensic science also helps in find out if poison is used to kill a person as well as to find out the suspect of the crime who can have connection with such stuff. Moreover, forensic science also helps in solving robbery cases by the method of physical matching in which proofs like fingerprints, shoe

prints, tire prints, glove prints, tool impressions, broken glass, plastic fragments, and torn edges of items, such as paper, tape, or cloth are collected and are tried to match them with that of suspects.

3.3 Judicial interpretation towards Scientific methods of criminal investigation

There was controversy over the use of forensic tools such as DNA and fingerprints, and Narco analysis over constitutional validity. As a result, the use of forensic tools to collect and utilize as evidence gets restricted. The study by the Supreme Court and High Court revealed that the use of forensic evidence such as DNA was used in 47 cases in 2011. About 4.7% of murder cases and 2.3% of cases used DNA evidence to provide jurisdiction. Despite the low percentage applicability of forensic evidence in the Indian judicial system, it has been used in some cases such as Krishan Lal v. the State of Haryana to convict the accused. In the case, the accused had abducted a minor girl from outside of a hut where she was sleeping with her family members. The girl was raped by the main accused and others and left-back at her hut. The case was reported and after collecting and examining the evidence with the help of forensic tests such as DNA, the main accused was convicted under Section 376 and Section 506 of the Indian Penal Code.

According to Scaramella, Cox and McCamey (2010) different forensic processes such as Narco Analysis Test, Polygraph test, Brain Mapping, and others are used to provide evidence related to criminal cases and provide jurisdiction based on them. For example, in the case of 2006 Mumbai Serial Blasts Identification, the inklings of the terrorists were acquired by conducting narcoanalysis tests, lie detection tests, and brain mapping. It included conducting forensic tests on suspects such as Kalid Aziz Sheikh, Dr. Tanveer Ansari, Abdul Rehman, and others to analyze their association with the banned association Laskhar-eToiba. In the narco analysis and brain mapping tests, Abdul Rehman confirmed that he had an association with Laskar-e-Toiba, had visited Dhaka and was involved in terrorists attack with Naveed and Naushad. As a result, forensic tests helped in collecting valuable insights from the suspects such as initially visiting Dhaka was denied by Abdul Rehman and later on confirmed in the forensic test. The collection of forensic evidence helped the investigating officers to collect reliable information related to the serial blasts in Mumbai.

To analyze judicial interpretation towards scientific methods in a criminal investigation of the case of Abu Salem. A four-hour-long narcoanalysis test was conducted on Abu Salem which led to the revelation of crucial information related to blasts, murders, and exhortations. Salem provided critical insights about his connections in the terrorist activities and murder cases linked to actress Manisha Koirala. The narco test of Abu Salem was closely guarded by the team of Mumbai Police, Forensic Science Lab Officials, videographer, and technicians. However, the view over the admissibility of the facts provided by Salem under drug abuse is under question about the encroachment of Human Rights, liberties, and freedom.

Grover and Tyagi (1910) examined the case of Nithari's Serial Killers in Uttar Pradesh to analyze the judicial interpretation towards scientific methods of the criminal investigation. The case includes the active involvement of Moninder Singh Pandher and Surendra Koli that were alleged against murder, rape, and hiding of evidence. The two accused were subjected to three forensic tests such as polygraph test, brain mapping, and narco analysis to acquire reliable information. The accused were alleged to murder 30 women and children are sexually abusing them. The entire processes of the forensic tests of the accused were video recorded to know the nature of the sexual perversion and

identify the reason behind the rape and killings. The narco test revealed that Surendra was a cannibal psychopath who killed the victims out of sexual impotency anguish. Based on the forensic test evidence the accused were punished with a death sentence.

Schafer (2008) examined the use of forensic evidence in the criminal investigation and judicial interpretation by undertaking the case of Anil Anthony Arikswamy Joseph v. the State of Maharastra. In this case, a boy was abducted by the accused, had carnal intercourse, and then killed to hide the crime. However, DNA profile and oral evidence from the recovered deceased body provided evidence related to the involvement of the accused. As a result, the main accused Anil was found to be guilty and punished with a death sentence on account of killing a minor boy aged 10 years. Therefore, it can be said that forensic science is a vital element to carry out a criminal investigation that helps in collecting scientific evidence.

Sodhi and Kaur (2005) examined that forensic is an important criminal investigation tool that helps in identifying the criminal and producing evidence against the accused through scientific investigations. The major benefit of forensic investigation is that it provides evidence related to the location, modus operandi, and motive behind the crime. It plays an essential role in the criminal justice system by authenticating the collected evidence and recognizing the criminal from personal physical evidence such as footprint, fingerprint, hair, blood drops, and others. The use of forensic investigation and evidence in the Indian judicial system has been low which needs to be increased by spreading awareness about the practical applicability of forensic evidence and increasing the role of experts under the Indian Evidence Act, 1872. It will help the experts to put their opinion at the time of criminal justice proceedings.

4. FINDINGS AND DISCUSSION

Forensic evidence is the scientific method of collecting evidence against criminals by using different processes such as fingerprint evidence, trace evidence, DNA evidence, digital evidence, drug evidence, weapons evidence, and many more. It helps in provided evidence in rape, murder, and drug tracking, and civil cases. The use of forensic evidence is limited in the Indian legal system owing to restrictions related to the provision of Articles 20 (3) of the Indian Constitution. It reduces the use of forensic evidence in criminal proceedings in India increases the trial duration of the case. It is recommended by the National Draft Policy on Criminal Justice Reform that amendments must be brought in the Indian Evidence Act so that there is the inclusion of scientific evidence in the form of opinion evidence and substantive evidence. It will help in increasing the validity of scientific research and increase its usage in Indian criminal justice cases.

5. CONCLUSION

There has been tremendous technological advancement in the scientific era in India, but the use of forensic science in Indian criminal justice remains low. It creates issues in the early investigation and proceedings of the case. Forensic evidence has been used in various cases such as Dinesh Dalmia v State, the Madras High Court, Ramchandra Reddy, and Ors. v. State of Maharashtra, Nithari's Serial Killers in Uttar Pradesh, and others which helped the police in reaching the culprit and convicting within the limited time frame. Based on the outcomes of the above cases, it can be said that the use of forensic evidence is beneficial and its use must be increased in the Indian judicial system by

bringing modifications in the traditional cases laws. It will help in reducing the time that is consumed to investigate the case and the victims will be provided jurisdiction in a limited duration.

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