Examining the Role of Forensic Science for the Investigative – Solution of Crime

Mamta Gaur,Department of Law,
Galgotias University, Yamuna Expressway Greater Noida, Uttar Pradesh
Email ID:mamtagaur157@gmail.com

ABSTRACT: ***This study was conducted to examine the value of forensic science in criminal investigation. Forensic science is a dynamic field of knowledge and skills which can be highly helpful and useful for criminal investigation. Forensic science applies technical skills to detect, identify and prosecute offenders. The application and awareness of forensic science is growing in Law Enforcement Agencies in Pakistan. The Police in Sindh province is a mix of the human resource having different levels of education and exposure to training besides variant thinking patterns and perceptions. The force with better education and training feel that forensic science is inevitable for successful criminal investigation. The traditional thinking police is totally unaware about role of new technology in helping investigators. The 81% of respondents were satisfied from police knowledge of forensic techniques. The 19% opined police has poor forensic knowledge and skills. The future of forensic science in Sindh depends on overcoming the constraints and strengthening the developmental factors. The constraints are orthodox attitudes, lack of implementation, lack of funds, and lack of training staff, equipment and laboratories. Forensic science-investigation is possible if police adopts new professional culture, ethics of professionalism, scientific methods & tools, merit-based recruitment and promotion, discouraging political interference, enhancing training inputs and establishing the forensic laboratories.***

KEYWORDS: Crime, Criminal, Forensic science, Investigation, Police.

INTRODUCTION

The adjective forensic is derived from the Latin word forum. For various reasons such as market, general debate, enterprise and commercial dealings, the early Romans used forum. Criticism, scrutiny and structured civil law played a part in these forums.

It usually requires the facts provided in the court of law to convict a criminal defendant. By including witnesses, suspects and specialists in the court of justice, forensic science assists in the resolution of crime. The 189-year-old forensic science helps combine police investigators and scientists to examine the evidence found on the crime scene scientifically. Forensic science, in its breadth and application, is a very large field.

In addition to the other disciplinary interconnections such as Forensic Anthropology, Forensic Archeology, Forensic Psychology, Criminalistics and Forensic Hypnosis, it is recognized under other identities such as Forensics, Forensic/Medical Jurisprudence. Pathologists, biologists, physicists, chemists and medical officers are interested with forensic research to investigate crime inquiries. Forensic science can help locate missing persons successfully, determine their true identity, relate and convict through testimony that victimized them through scientific evidence production.

The hair and fibers found at the scene of the crime often have meaningful forensic leads. By carefully analyzing the facts, the identity of the suspect, the circumstances of the victim (like rape) may be linked. Technically, it was possible to obtain fingerprints, boot impressions and instrument labels. The casting kit and other forensic science equipment associated with it are used.

Trace information may also offer clues to help add to the discovery of the perpetrator and victim. Biological fluids (body fluids) are available, including blood, sperm, urine, vaginal discharge, spit, feces and vomit. It's the DNA they have. They are obtained with a scalpel in sterile containers for laboratory study. The forensic proof consists of small matter particles and tiny fibers left at the scene of the crime. It must be accepted, registered, packed and retained. The residue material found by forensic experts is typically human hair. There

are several investigative purposes for its study and comparison. The blood splatter patterns in violent crimes are highly useful facts. Forensic experts need to properly collect, store and analyze them.

Both human beings have special DNA that includes a distinctive pattern that is beneficial in relating to the individual's precise identity. DNA matching proves the innocence or guilt of others. In rape attacks, fire-related accidents/disasters, paternity identification events, and identifying identities of missing people or unidentified dead bodies, DNA evidence is extremely valuable. If the data base is built and correctly used, this will be very useful in the police investigation process. The forensic analysts investigate the form of weapons used, their casings and ammunition linking them to the crime scene and the crime perpetrator and victim. Forensic teams inspect the papers, fingerprints, notes, diaries and books for handwriting matches for perpetrators and victims.

In investigating the true contribution of biological data, the Y-Chromosome is usually used. In this way, the father controversy and complicity in rape could be successfully solved. Base pair repletion patterns are the target of the DNA matching. The scene of the crime provides evidence of who committed the crime. The forensic detective follows the protocols, such as reconstruction of the crime scene, identity of the suspect, and important information provided to the judge.

The physical proof shows the crime's commission, links the crime with the perpetrator and proves who was victimized. Forensic science approaches help reduce the number of offenders. Matching the evidence clues found on the crime scene with interviews of witnesses and victims narrows down criminal suspects and helps to track the crime efficiently. Techniques such as personality analysis, polygraph examinations, and handwriting knowledge also aid police in detecting true criminal offenders. As the victim is immediately granted justice and no one is unduly/wrongly blamed for the offence he/she has not done, this guarantees the predominance of justice over injustice.[1]

DISCUSSION

Burglaries were largely performed by young, minority males against marginally older victims, by strangers in homes and apartments, with no witnesses, possibly reflecting the low rates of arrests and convictions. The detection of burglaries through the legal process, monitoring for the presence/absence of physical evidence obtained, showed statistically substantial variations in the levels of detention, prosecutor referral, indictment, and conviction. And, although this analysis also showed that gathered crime scene information was a significant predictor of arrest when controlling for other variables, a barrier to solving and prosecuting burglaries was that, in the vast majority of cases, there was a significant predictor of arrest. Of the sampled cases, just 19.6 percent had proof. In comparison, there were eyewitnesses in only 5% of cases.

Since most of the robberies presented insufficient evidence to expose the name of the suspect, fewer than 10% of the incidents ended in a conviction. These observations are close to those found by Coupe & Griffiths in a residential burglary study (1996). Their research found that an arrest occurred in just 6 percent of burglary cases. Nearly half of the convictions were due to capturing criminals in the act, while most of the remainder were accounted for witness testimony. Further police inquiries benefited with some success, and none from physical evidence. It should be remembered that, prior to the creation of the national DNA database, their analysis was carried out in England.

With respect to DNA, only 13 cases had biological evidence in the present analysis, and only one of those cases resulted in an indictment that was not reported to the DA. Although this finding should be taken with caution because of the limited number of cases of biological data, this finding is important to remember because the result is somewhat different from that of the DNA Field Experiment of the National Institute of Justice. The theory of forensics explains the identity of the suspect who committed the crime.[2]

The proof specifically shows the sort of crime committed (what). The situations speak out on the moment of the incident (when). The forensic evidence reveals the location of the felony (where/crime scene). The

forensic investigation discovers the offender's modus operandi (how). Lastly, the reason behind the crime is identified. Forensic experts are reconstructing the identity of the survivor and the perpetrator. Depending on the incident, there could be primary, secondary and tertiary crime scenes. In solving murders, scientific innovations, investigative methods and forensic labs are very critical considerations / actors. The position of the fields of natural and physical sciences in implementation is known as forensic science.

Forensic science shows a straightforward picture of the nature of crime, the underlying motive and the person responsible for it. The areas of Forensic Science include criminology, criminal justice, psychology, chemistry, anthropology, genetics, entomology, architecture, medicine (pathology and odontology), physics and geology as crime-solving disciplines within its scope. "A legal search for people and things helpful in reconstructing an illegal act or omission and the mental state that accompanies it is defined as "Criminal Investigation. It is a measure from the known to the unknown, backward in timing. Criminalistics is the focal point of forensic science and criminal investigation. Science techniques are used by criminalists to produce, analyze, document and interpret the forensic evidence found at the place of crime.

In fact, the detective decides whether a crime has been committed or not. The crime scene and proof was safeguarded. In addition, it is therefore necessary to locate the victim and arrest the suspect. The data were demanded to be used in court for testifying. Crime scene search patterns aid with the processing of crime scene evidence. The ever-expanding methods continue to scan beyond the circle from the centre. From the outside, the ever-narrowing style continues and hits the emphasis stage. Forensic science is a robust and incredibly powerful instrument in the prosecution of a crime. The role of expertise, training, intuitive detectives, police and other professionals must help forensic equipment and techniques. In order to answer the crime mystery, forensic science includes all information gathered on the crime scene.[3]

CONCLUSION

The protocols are methods that are closely pursued. The evidence is critical ties that include pointers to perpetrators and victims of crimes. The search models contribute to the compilation of spatial and other facts. Via the use of scientific equipment and kits, DNA specialists retrieve fingerprints. The shoeprints and tyre tracks provide references to the criminal identification, car model, height, and criminal gait. Forensic research allows police to solve cases involved with murders, assaults and injuries. In addition, dead bodies, missing persons, and incidents of theft and forgery are also solved.[4]

In view of the current economic crisis and the lack of services in the criminal justice system, it is likely that cases based on DNA would displace cases based on non-DNA rather than contribute to a drastic rise in overall forensic cases. Over all, a small number of police, judges, courtrooms and jails remain in the criminal justice system. Since prosecutors are inevitable 125 This paper is a study report sent to the U.S. Justice Department.[5] The Department has not released this paper. The opinions or opinions shared are those of the author(s) and do not generally represent the official stance or policies of the United States. Justice Department.

They may pick only a fraction of cases from the wider number possible to prosecute, they which create a bias against DNA-based evidence in resource allocation. Accordingly, lawyers facing finite resources would logically favor cases where evidence of statistical certainty is readily accessible, opposed to those who rely exclusively on testimony from suspects and witnesses.[6] If so, then a number of DNA-based cases disproportionate to the percentage of such cases in the pool at large would likely contain the average prosecutor's docket. DNA testing still needs to preserve its present 'gold standard' status as the most accurate method of forensic testing in order to meet those predictions. In cases where permission becomes the main topic of legal conflict, there can also be a reshuffling of resources dedicated to forensic investigation away from the forensic processing of evidence.[7]

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