ABSTRACT

The advent of forensic science technologies have made dramatic scientific breakthroughs in the decision making process of criminal cases but study was required to analyze the exact impact of forensic evidence in determining the rate of conviction and acquittal. The research on the role of forensic evidences like DNA, ballistics, fingerprints and toxicology in the decision making process of criminal cases has proved the hypothesis that scientific investigation of crime with the aid of forensic science has more probative value than direct evidences in deciding criminal cases. In majority decisions where forensic evidence has been used helped in awarding conviction. A comparative study on the law of forensic evidence of different countries reveals its nature of relevancy and admissibility. In United States, while deciding admissibility of expert evidence the Judge must decide whether the evidence is relevant, reliable, helpful and fit. In United Kingdom (UK) the requirements of admissibility of expert evidence are assistance, relevant expertise, impartiality and evidentiary reliability. The principles of admissibility of expert evidence in Germany are suitability of experts in the specific area. In India, evidence can be given of relevant fact and fact in-issue.

The study of the criminal cases statistics in which conviction or acquittal was recorded depending on DNA evidence revealed different aspects of such evidence and the stand taken by court in various cases. In cases of rape and for ascertaining the identity of individuals from the remains of dead body DNA evidence is treated like substantive evidence. Whereas in other criminal cases, it is treated as a corroborative evidence. Even in cases for determining paternity and maternity DNA evidence is treated as substantive evidence. Therefore, it has a dual character of substantiveness and corroborativeness. In 88.16% criminal cases where DNA evidence was used, conviction was recorded. In 70.83% cases studied under paternity/maternity, petitions were allowed.

The criminal case study on Ballistic evidence reveals that it is corroborative evidence. Even possession of arms is an offence. In cases where injuries are caused by firearms, the opinion of the ballistic expert is of a considerable importance where both the
firearm and the crime cartridge were recovered during investigation to connect an accused with the crime. In 82% criminal cases in which ballistic evidence were used, conviction was recorded.

Fingerprint evidence is also not a substantive piece of evidence. Such evidence can only be used to corroborate some items of substantive evidence which are otherwise on record. Specimen fingerprints of the accused must be collected in accordance with section 5 of The Identification of Prisoners Act, 1920. In 71% criminal cases in which fingerprint evidence was referred to, conviction was recorded.

Toxicology evidence is also a corroborative piece of evidence. According to the Narcotic Drugs and Psychotropic Substances Act, 1985, even possession of certain chemicals is an offence. When the sample of Narcotics were not taken in terms of the Standing Instruction and by complying section 55 of the NDPS Act, the toxicology evidence became irrelevant. In 79% criminal cases in which toxicology evidence was referred to, conviction was recorded.

Therefore the total rate of conviction in all the four types of forensic evidence is 80.04 % which satisfies and proves the hypothesis