

In Heinous Offence Cases, Lack Of Forensic Science Education And Training In Cases Involving Horrific Crimes Adversely Affects Police Investigators And Competent Investigations

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ABSTRACT

Criminal investigation can greatly benefit from the knowledge and skills in the formidable field of forensic science. The purpose of this study is to understand how forensic evidence is used and lost throughout the criminal justice system, from the crime scene to laboratory analysis and subsequent criminal court processes. This study, which was carried out in Karachi, Sindh, Pakistan, has a quantitative and descriptive study design. The information was gathered using a closed-ended questionnaire and the purposive sampling technique. According to the report, the investigating officers lack fundamental investigative knowledge. Investigational methods that are imprecise, aggressive, and insensitive are used in our medicolegal system. Conviction rates are impacted by the qualifications and training gaps among the parties processing forensic evidence. The forensic labs in Sindh are not equipped to handle forensic evidence.

Keywords: Pakistan, Forensic Investigation, Admissibility, DNA, Court, Crime Scene, Criminology.

INTRODUCTION

Forensic science is defined as "the utilization of science to those hoodlum and customary rules that are supported by the police work settings in a wrongdoer esteem framework" in the introduction. In forensic science, methods and data from numerous scientific fields are used to legal problems. It involves using a variety of academic fields, such as physical science, physics, cybercrime, software engineering, and designing for proof analysis. Physical science is used, for instance, to appreciate the example of a blood splash, to build up the origin of an unidentified suspect, and to decide how pharmaceuticals are created (Crispino, 2008). In this way, the role of science in criminal justice and the broader body of laws is fundamentally fundamental but sometimes misunderstood. Without forensic science, a criminal investigation would be a disjointed puzzle. Hoodlums can never be sentenced without the aid of quantifiable science, unless an observer is available. Forensic science examines the evidence to produce facts that can be used in court, whilst analysts and legal requirement organizations are occupied with the collection of proof, whether it be physical or computerized. Thus, assassins, criminals, drug dealers, and assailants would roam free in a society lacking criminological expertise. In a criminal inquiry, a legal researcher's responsibilities are crucial because they need closely examining evidence to ensure it hasn't been tampered with. An assortment of legal specialists and instruments are employed in the

examination of a criminal demonstration. For instance, legal pathologists are skilled in performing post-mortem exams to ascertain the cause of death (Pyrek, 2010).

IMPORTANCE OF CURRENT GENETIC MATERIAL AND FORENSIC SCIENCE

In its landmark decision, the High Court of Pakistan (announced in Supreme Court Monthly Review 2021 PLD 362 Supreme-Court) examined in-depth the role that science, modern scientific techniques, and tools play in our legal system. Before looking at the incidental evidence, it may be helpful to emphasize the role that science, modern scientific techniques, and tools play in our legal system. Courts must be aware of science and its established practices in order to assist persons in this inventively complex culture. The boundaries of deductively sound information should be respected by the courts in making legitimate decisions.

INACCURATE INVESTIGATION RESULTS IN INJUSTICE

Because the criminal justice system and investigational circuit being determined by monitory magnetism instead of truth and reality, hundreds of innocent individuals are imprisoned and sentenced to death or life. Criminal investigations in Pakistan shift focus from the accused to the crime scene, which eventually results in the fabrication of evidence, coerced confessions, torture, and, in some cases, false convictions.

According to the Criminal Procedure Code (CrPC), an investigation is the process of gathering evidence, which necessitates the use of cutting-edge technology and scientific instruments. Police must concentrate on the crime site, apply scientific techniques, establish chain of custody protocols, and secure the evidence to identify the offender in order to speed up investigations.

The police serve as both a gateway into the criminal justice system and a doorway to obtain justice. It will undoubtedly result in the end of justice at the door if the investigation's core job is compromised due to political influence, entrenched interests, corruption, or incompetence.

There have been instances in the past where inexperience and improper evidence processing at crime scenes had a detrimental effect on the verdict. A gap in the evidence throughout the trial prevented a conviction because of poor management, preservation, and insufficient crime scene investigation. Serious concerns had been raised about the evidence by the defense despite the prosecutor providing a mountain of proof. Lack of sufficient training had an effect on how crime scenes were processed, including the gathering of evidence and, ultimately, the case investigation.

It is past time to reinforce and expand the investigative function. Only authorized investigators should be assigned by law to look into cases, and in the event of wrongful or motivated arrests, the investigation officer and the department should be held liable in civil court.

The institutions of Pakistan's criminal justice system are unable to handle the difficulties at hand. The criminal inquiry is not seen from a rule-of-law perspective by the police, the prosecution, the judiciary, or the prison system. These events have made the public lose faith in how the system is being implemented.

Additionally, the system is hampered by a lack of ability on the part of certain institutions and participating parties, particularly in terms of coordinating their activities. Even though there is a high prevalence of crime, few instances end in convictions. The courts, the public prosecutor's office, and the system as a whole are fragmented, ineffective, and prone to

political interference. Despite these flaws, they are under a lot of pressure to provide results. (Saboor, Abdul, Memon. 2022).

Investigative of the crime scene is a crucial part of the criminal investigative process. A successful resolution of a criminal case requires the proper processing of a crime scene. Pakistani police officials lack the training and equipment needed to analyze crime scenes and gather evidence. For the processing of crime scenes to be done properly in Pakistan, there must be certain capacity-building initiatives and upgrades. This article focuses on the circumstances and tactics in use in Pakistan at the moment, followed by recommendations for steps to take to strengthen this country's capabilities.

In impoverished Pakistan, where forensic science is rarely used, investigates crimes poorly. Crime scene investigations have been overlooked and devalued. Pakistan's crime scene processing is weak because it lacks several crime-solving instruments used in industrialized nations. However, terrorist activities, judicial activism, broad media coverage, and increased public awareness have forced the police to go beyond standard methods of investigation. Even if forensic processes are imperfect, police must become forensic to stay up with criminal justice improvements. Pakistan's police can't solve cases lacking services related to forensics, training, and expertise. As is well known, many heinous crimes require a skilled police force.

CRIME INVESTIGATION'S IMPORTANCE

In the past, inexperience and improper evidence processing at crime scenes had a detrimental effect on the verdict. Evidence gaps were caused by improper handling, poor preservation, and insufficient crime scene examination.

In developing countries like Pakistan, crime scenes are often mishandled due to a lack of forensic science. Crime scene investigations have been overlooked and minimized. Pakistan's crime scene processing is hampered by a lack of crime-solving instruments. Terrorist attacks, judicial activism, media attention, and public awareness have pressured police to go beyond normal methods of investigation. Forensic methods are imperfect, but the police must employ them to stay up with criminal justice system improvements (Richard Reyes. 2017).

THE ULTIMATE OBJECTIVE OF THIS RESEARCH

Science applied to law is one of several aspects that emphasize the necessity of studying the phenomenon of deviance with regard to forensic science. Science and law often make unusual bedfellows. By creating tests that provide someone with an associate's degree with an unbiased response to the posed topic, scientific knowledge will advance human understanding.

Through the research process, a person regularly examines physical evidence and meticulously documents data that supports or refutes scientific process. However, the law begins with at least two opposing parties with fundamentally different opinions and utilizes the courts to discuss factual matters within the framework of statutory, case, and constitutional legislation. Forensic evidence, including findings and opinions, is a crucial component of both criminal and civil processes. Forensics are subject to comparable legal standards, participate in both criminal and civil actions, and must be present during the proceeding in which they are participating. Expert evidence is valued for its high quality and if the witness is familiar with the relevant legal precedents, among other factors. (Saboor, Abdul, Memon. 2022).

THE HISTORICAL PATH OF THE RESEARCH

DNA typing, physical evidence databases, and related scientific equipment have advanced the forensic sciences during the past years, yet most criminal investigations do not make use of these advances due to a lack of funding.

There are more focused studies on DNA testing, its costs, and how it helps solve cold cases and property crimes, but none have looked at the whole range of physical evidence or how cases are handled across the criminal justice system. Contrary to how forensic science is romanticized by the media as a field that can always and instantly solve crimes, the reality is far different.

Given how the forensic science profession has changed over the past 25 years, it may not be our purpose to just duplicate previous work but rather to build on it while keeping in mind the industry's present state of affairs. Despite the fact that this field's importance and perceived worth are based on a solid laboratory scientific basis, forensic science is nevertheless housed inside an overburdened court system that is predominately made up of nonscientists who decide whether and when that science will be employed. The fact that most crime scenes cannot be processed or the majority of the evidence examined in a lab setting has an impact on how scientific evidence is used and interpreted, which may be a fundamentally important condition that a science researcher must address in order to develop an effective research strategy. (Saboor, Abdul, Memon. 2022).

In the past, law enforcement agencies often assumed their principal responsibilities as first responders and peacekeepers. Only a small portion of such responsibilities included looking into criminal matters. Now that a wide variety of reliable forensic techniques are available, law enforcement agencies may encounter situations that call for some level of investigation expertise, regardless of their mandate.

LEGAL PERSPECTIVE IMPLEMENTATION

Criminal investigations can be inaccurate endeavors, often undertaken in response to unforeseen and ongoing events to direct the process when there is insufficient information. Because of this, a precise methodology that can be used in every situation is difficult to master or teach. Nonetheless, any inquiry must adhere to some fundamental concepts, legal requirements, and processes. These principles, recommendations, and practices offer useful instruments for making sure that investigative techniques and procedures are successful. (Saboor, 2022). The most significant lesson in this book is how to adopt an "investigative attitude" when conducting an investigation. By concentrating on five key ideas in this chapter, we created the groundwork for the rest of the book:

- a. Criminal police as a way of thinking
- b. The need to think about the procedure.
- c. For contemporary study.
- d. To the investigator, stroll.

RESEARCH INVESTIGATION'S GOAL

An investigation's purpose is to confirm or deny allegations of fraud and corruption. It is a legally mandated process for gathering information that is conducted impartially and objectively with the goal of compiling relevant information and generating recommendations in these areas.

In the capacity of a police investigator, the process of finding, interpreting, and judging the veracity of information is fundamentally different from that of the general public. As an investigator, it is no longer sufficient to employ techniques that regular people utilize on a daily basis.

In contrast, since every investigation is an accountable process in which the investigator is not merely judging the authenticity and truth of the material for personal reinforcement of a belief, investigators must critically evaluate any evidence they come across. Instead, the police investigator is accountable for and has the legal authority to make choices that could have a big influence on the victims' and those being investigated's life.

This study's objective is examining possibilities to arm the police with the resources they need to perform anything from being able to conclusively identify a culprit in a crime to determining the specific time and circumstances of an incident. The following are the main goals of this research project:

- a. Set forth four objectives for examining how the criminal justice system is affected by forensic science evidence.
- b. Determine the proportion of crime scenes where one or more forensic evidence types are collected.
- c. Explain and list the many kinds of forensic evidence that are gathered at crime scenes.
- d. Monitor how forensic evidence is used and lost throughout the criminal justice system, from crime scenes to laboratory analysis to later criminal justice procedures.
- e. Identify various type of forensic evidence that are usually used to successfully resolve cases (in accordance with their accessibility at a scene of the crime). The study was carried out using a prospective examination of official data that tracked criminal cases in jurisdictions from the point at which a police incident report was made to the point at which the criminal case was finally resolved. Sites representing city, county, and state crime laboratory services were chosen.

CURRENT RESEARCH

Establishing the truth is the main objective of forensic science and criminal investigation. The objective of processing a crime scene is to gather as much data and proof in the best possible condition. The objective of this current research is to provide the police with the tools they need to conduct anything from identifying a criminal to pinpointing the time and place of an occurrence.

This study's objectives are:

- a. Establish four objectives for studying how forensic science evidence influences the criminal justice system.
- b. Determine the proportion of crime scenes with forensic evidence.
- c. List the various forensic evidence found at crime sites.
- d. From crime scenes through laboratory analysis to criminal justice procedures, track forensic evidence usage and loss.
- e. Determine which sorts of forensic evidence are most commonly utilized to solve cases.

The study was carried out using a prospective examination of official record data that tracked criminal cases in jurisdictions from the point at which a police incident report was made to the point at which the criminal case was finally resolved. Sites representing city, county, and state crime laboratory services were chosen (Mahmood and Sadaf 2022).

PLAN FOR RESEARCH WORK

It is planned to adopt a systematic methodology that should satisfy the needs of the aim and objectives of this research effort after realizing the necessity for an appropriate and adequate methodology for the renowned research work for the suggested study. It is meant to give a qualitative description and analysis of the research question taking into account its nature.

Investigators are expected to have the information and abilities necessary to respond to and look into crimes. These abilities include Critical Incident Response and Legal Code Interpretation. Management of crime scenes and offence identification Evidence gathering and preservation, use of forensic technologies for examination of the evidence, management of the crime scene, evaluation of witnesses, questioning, interviewing, and interrogation of suspects, case development and recording, and presentation of the evidence in court.

Agents should also possess critical scientific reasoning skills for risk assessment and potent episode reaction, in addition to those fundamental talents of interaction and practice. They must be able to look at facts and construct solid logical, inductive, and quantitative arguments in order to identify and apprehend suspects.

As part of the research, court rulings, laws, and administrative procedures will be examined and reviewed. Such analyses will enable a real comprehension of the circumstances surrounding the offenders' illicit behavior. To describe and evaluate the pertinent data related to this research, deductions from case studies will be used to present and analyze respondents' experiences and perceptions.

The goals and objectives of this study will be taken into consideration when choosing this data collection methodology. Also, this effort will involve gathering primary and secondary data, including papers, reports, and case summaries. It is intended that maximum numbers of cases in each areas of criminological offences will be covered in this research.

- a. Set forth four objectives for examining how forensic science evidence affects the criminal justice system.
- b. Calculate the proportion of crime scenes where one or more different kinds of forensic evidence are gathered.
- c. List and describe the many forensic evidence types that are gathered at crime scenes.
- d. Follow the progression of forensic evidence from crime scenes through laboratory analysis and on to future criminal justice procedures in the criminal court system.
- e. Determine which forensic evidence types result in successful case resolutions most frequently (in relation to their availability at a crime scene).

The study was carried out using a prospective examination of official record data that tracked criminal cases in jurisdictions from the point at which a police incident report was made to the point at which the criminal case was finally resolved. Locations were chosen to reflect the services offered by local, county, and state crime laboratories. The statistical magnitudes of each variable were analyzed and summarized using a frequency table to describe the key elements of the data collected. This research was conducted by conducting various studies to:

- a. Police Stakeholders.
- b. The judges.
- c. Prosecutors.
- d. Lawyer / Advocates.
- e. Health care providers, coroners and laboratory analysts.

A questionnaire was used to collect qualitative data. With the aid of SPSS, the survey's questionnaire responses were then assessed (Social Sciences Statistics Package). Each variable's frequency was examined, and a stepwise chi-square test was used to look for any potential relationships. This study is one of the first actual attempts to take into account the critical function of forensic procedures in criminal investigations. A survey questionnaire is a tool created specifically to gather responses from respondents. 68 police officers from the regions of Hyderabad and Karachi made up the survey's sample size.

A questionnaire was used to collect qualitative data. With the aid of SPSS, the survey's questionnaire responses were then assessed (Social Sciences Statistics Package). Each variable's frequency was examined, and a stepwise chi-square test was used to look for any potential relationships. This study is among the first realistic attempts to take into consideration the critical function of forensic procedures in criminal cases. A survey questionnaire is an instrument specially designed and distributed to collect responses from respondents. 68 police officers from the regions of Hyderabad and Karachi made up the survey's sample size. Police to inspectors were among those who responded. As a result, the following investigational limitations that were noted during the investigation can be attributed to the absence of police knowledge: -

- a. The inexperienced and illiterate cops have traditionally acted in this manner.
- b. The police's familiarity with criminology.
- c. Lack of proficiency in forensic procedures used in forensic investigations.

The forensic methods and techniques used by the Sindh Police in each criminal case in the cities of Hyderabad and Karachi were also documented for this study. As a result, this study assesses the significance of existing forensic procedure techniques utilized in homicide investigations throughout Sindh, with a focus on the Karachi regions.

RESEARCH QUESTIONS

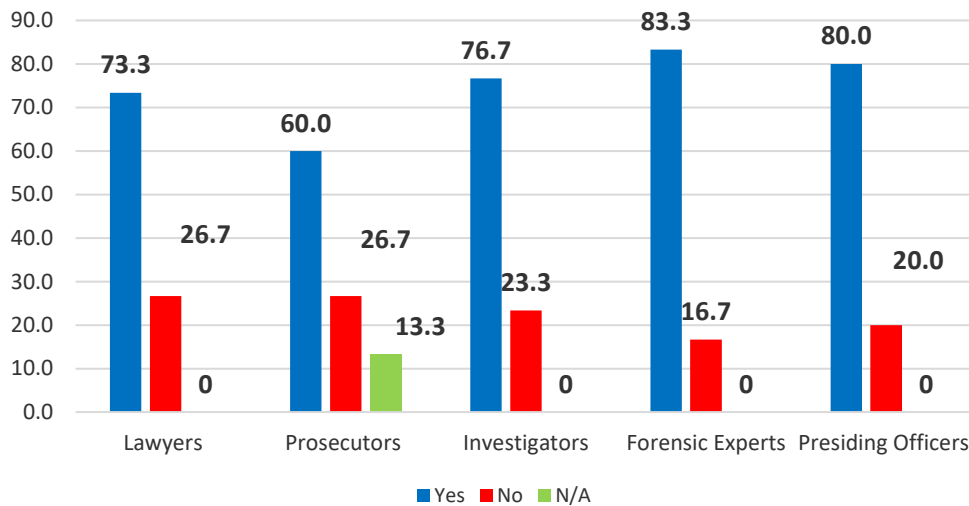
The research based on following questions from the targeted people related to field of investigation officers, advocates, forensic experts and presiding officers:

1. In rape, murder cases, investigation officers not aware with basic knowledge, our medicolegal system frequently employs investigational techniques that are imprecise, insensitive, and frequently violent.
2. Investigation agencies not properly trained about forensic protocols and their worthiness in establishing and proving the case in a befitting manner?
3. In heinous offence cases, lack of forensic science education and training in cases involving horrific crimes adversely affects police investigators and competent investigations.
4. Investigators are not qualified in Criminal investigation techniques used in modern era to cope up with complete situations, which is seriously affect the conviction rate in crimes?
5. Presently forensic laboratories in Sindh are incapable to cope up to deal impartially with forensic evidence in heinous offences.
6. Do you not think incompetency, lack of training, political pressure and meager resources are the main hurdle in dealing with the heinous crime cases?

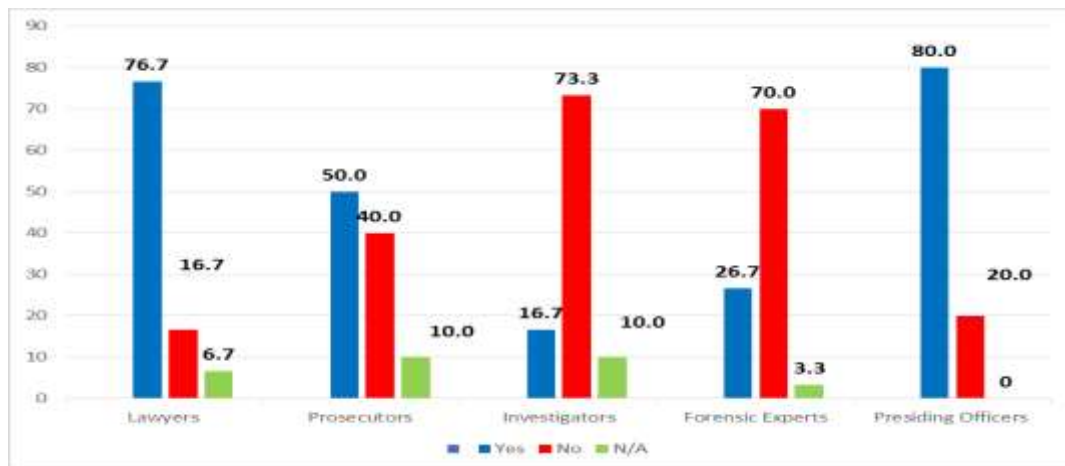
7. Do you think rape and murder cases are not normally proved due to lack of expert investigation not followed with forensic evidence on part of investigation?
8. Do you not think heinous cases are dishonestly improved on assumptions instead of tangible proof?
9. Is it true that forensic laboratories, legal knowledge, resources, awareness, training, and financing can help police detectives crack more complicated cases?
10. It's true that the majority of investigators are unfamiliar about Forensic Protocols used in criminal investigations to reduce the risk of contamination, which includes?
 - a. Keep the crime scene safe
 - b. Maintaining / set aside witnesses.
 - c. Accomplish a walkthrough of sight
 - d. Investigate for verification.
 - e. Testimony the crime sight.
 - f. Find all the proof.
 - g. Gather and store all evidence.

DATA ANALYSIS, FINDINGS AND DISCUSSION

Q # 1 In rape, murder cases, investigation officers not aware with basic knowledge, our medicolegal system frequently employs investigational techniques that are imprecise, insensitive, and frequently violent.

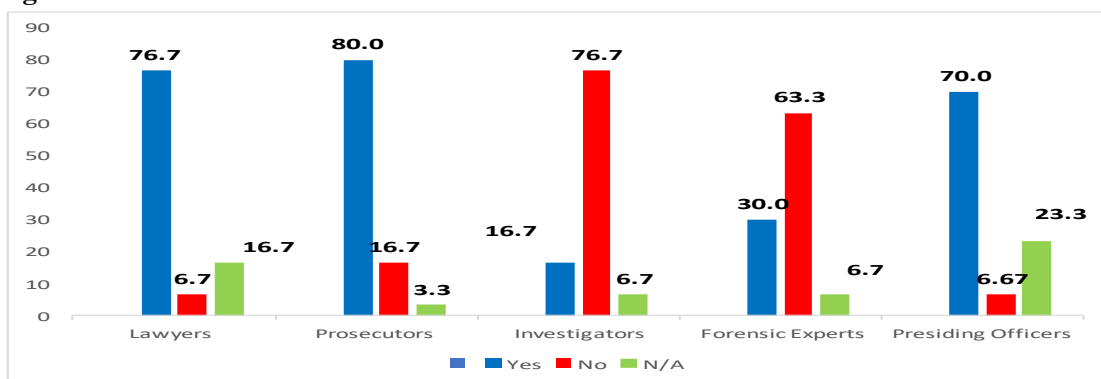


Q2: Investigation agencies not properly trained about forensic protocols and their worthiness in establishing and proving the case in a befitting manner?

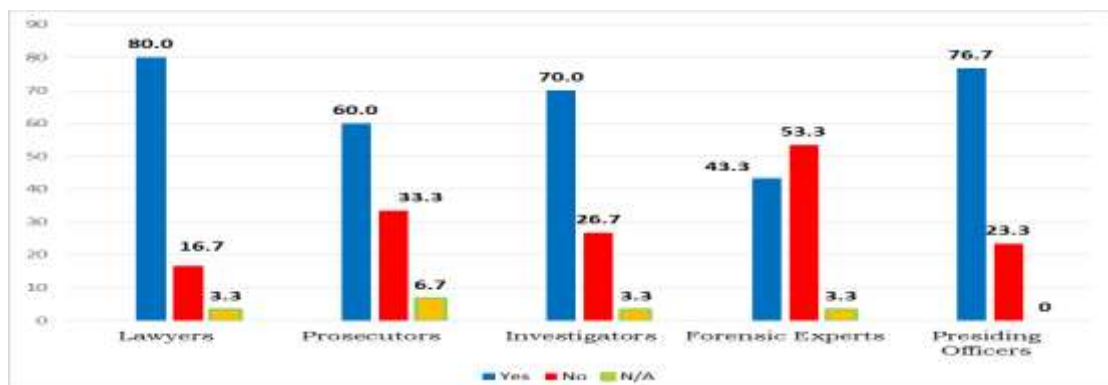


Q3: In heinous offence cases, lack of forensic science education and training in cases involving horrific crimes adversely affects police investigators and competent investigations.

Figure – 4.3

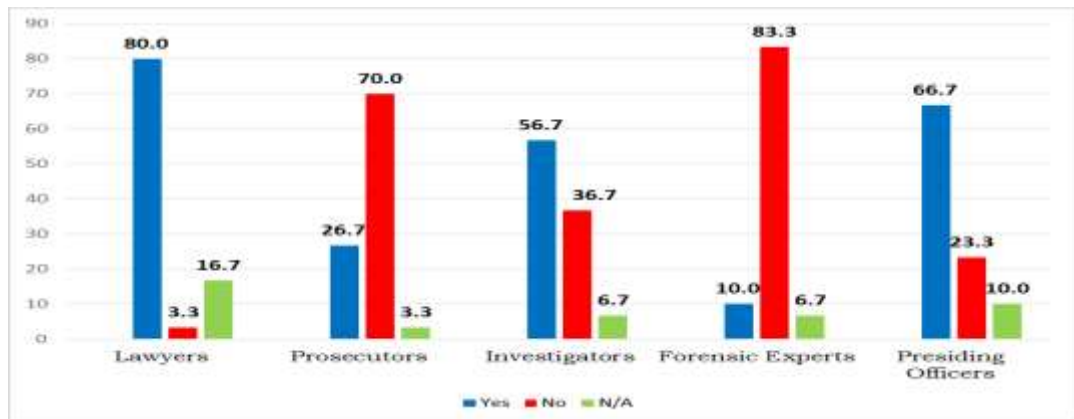


Q4: Investigators are not qualified in Criminal investigation techniques used in modern ear to cope up with complete situations, which is seriously affect the conviction rate in crimes?

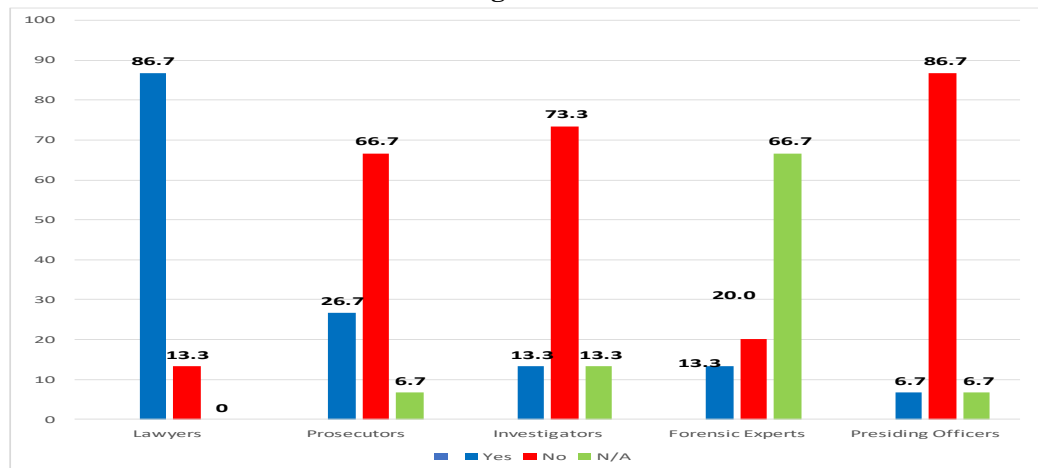


Q5: Presently forensic laboratories in Sindh are incapable to coupe up to deal impartially with forensic evidence in heinous offences?

Figure – 4.5

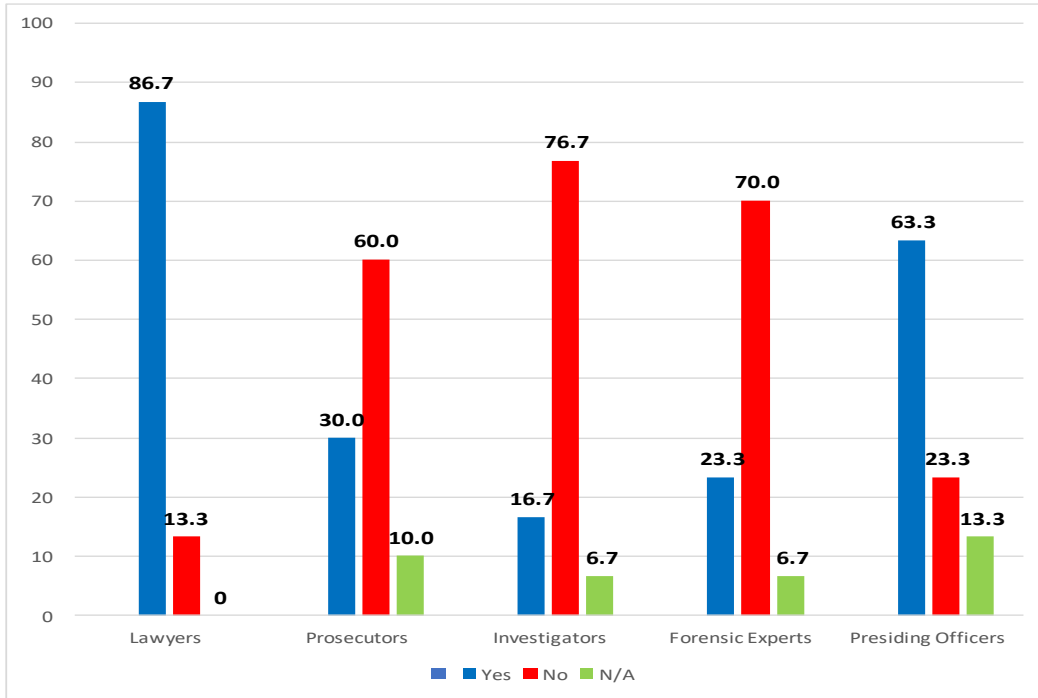


4.6: Do you not think incompetency, lack of training, political pressure and meager resources are the main hurdle in dealing with the heinous crime cases?

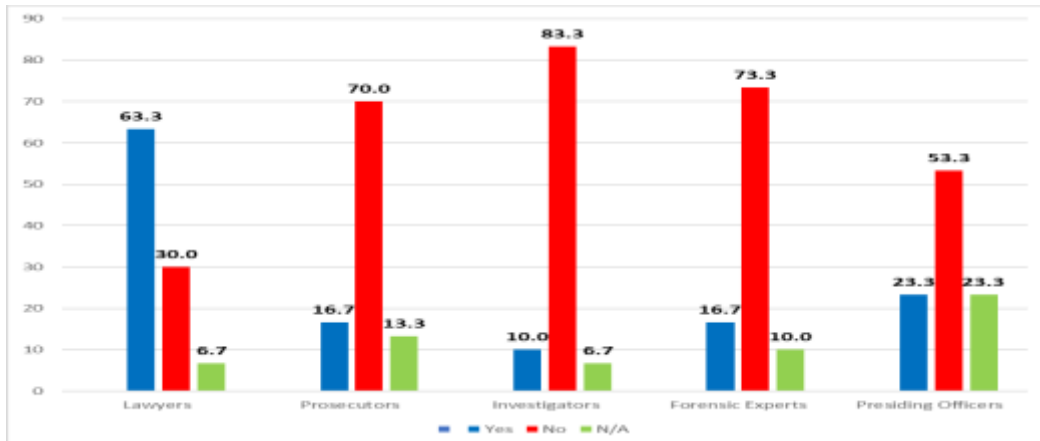


4.7: Do you think rape and murder cases are not normally proved due to lack of expert investigation not followed with forensic evidence on part of investigation?

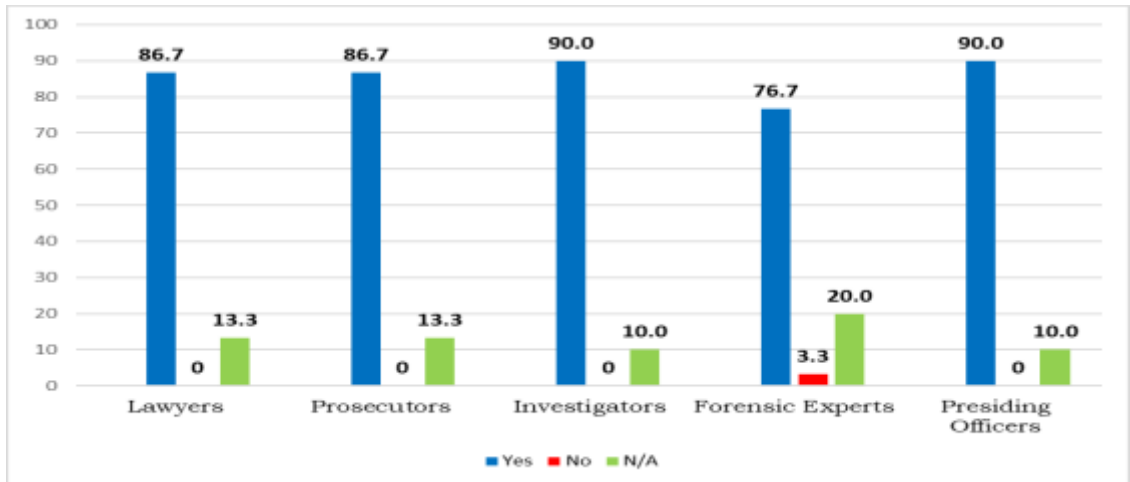
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4.8: Do you not think heinous cases are dishonestly improved on assumptions instead of tangible proof?

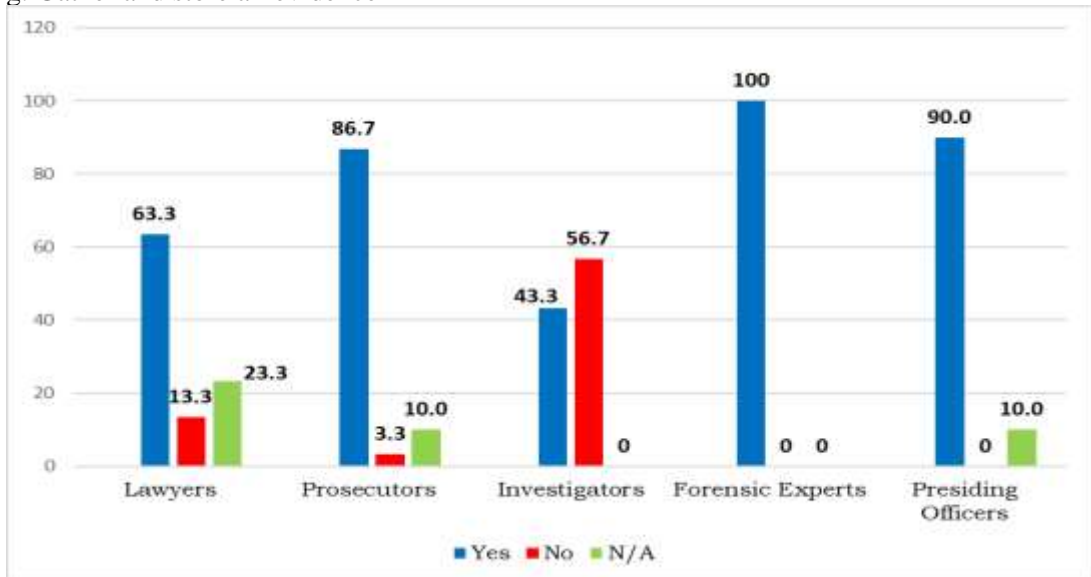


4.9: Is it true that forensic laboratories, legal knowledge, resources, awareness, training, and financing can help police detectives crack more complicated cases?

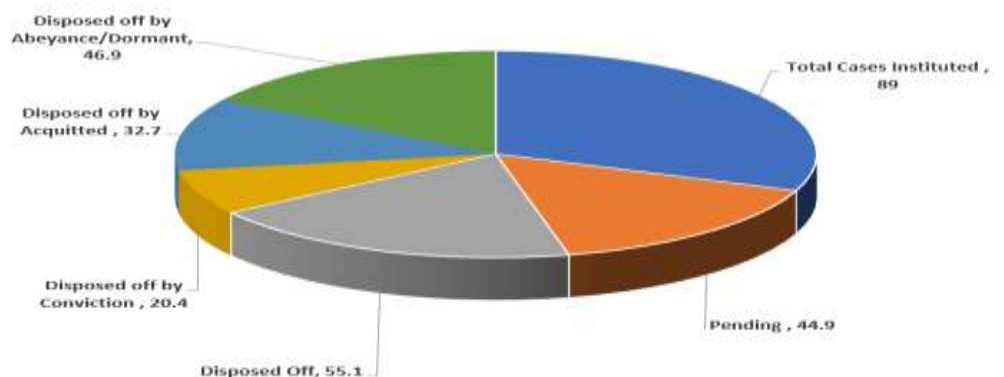


4.10: It's true that the majority of investigators are unfamiliar about Forensic Protocols used in criminal investigations to reduce the risk of contamination, which includes?

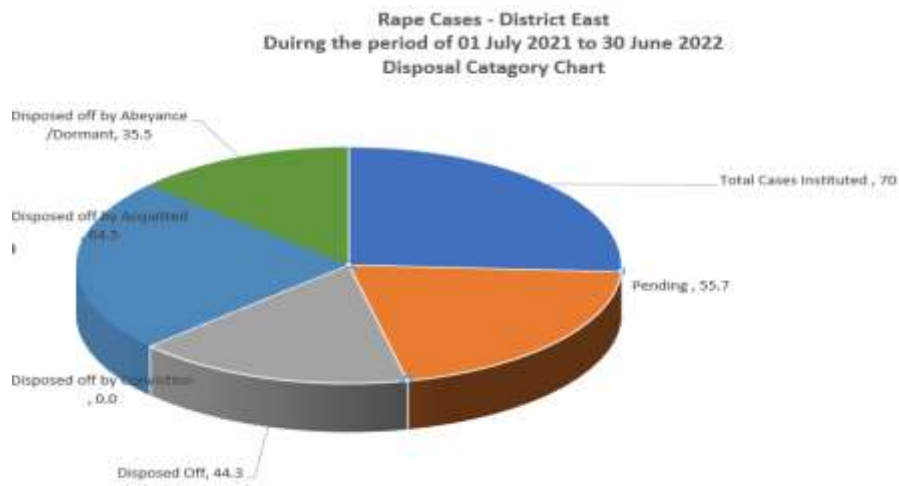
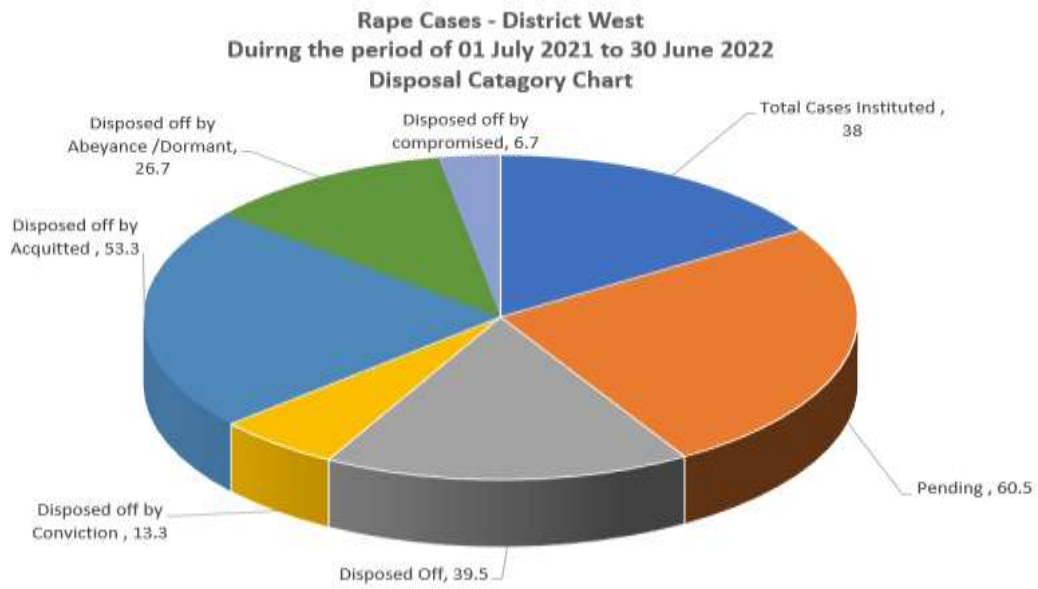
- a. Keep the crime scene safe
- b. Maintaining / set aside witnesses.
- c. Accomplish a walkthrough of sight.
- d. Investigate for verification.
- e. Testimony the crime sight.
- f. Find all the proof.
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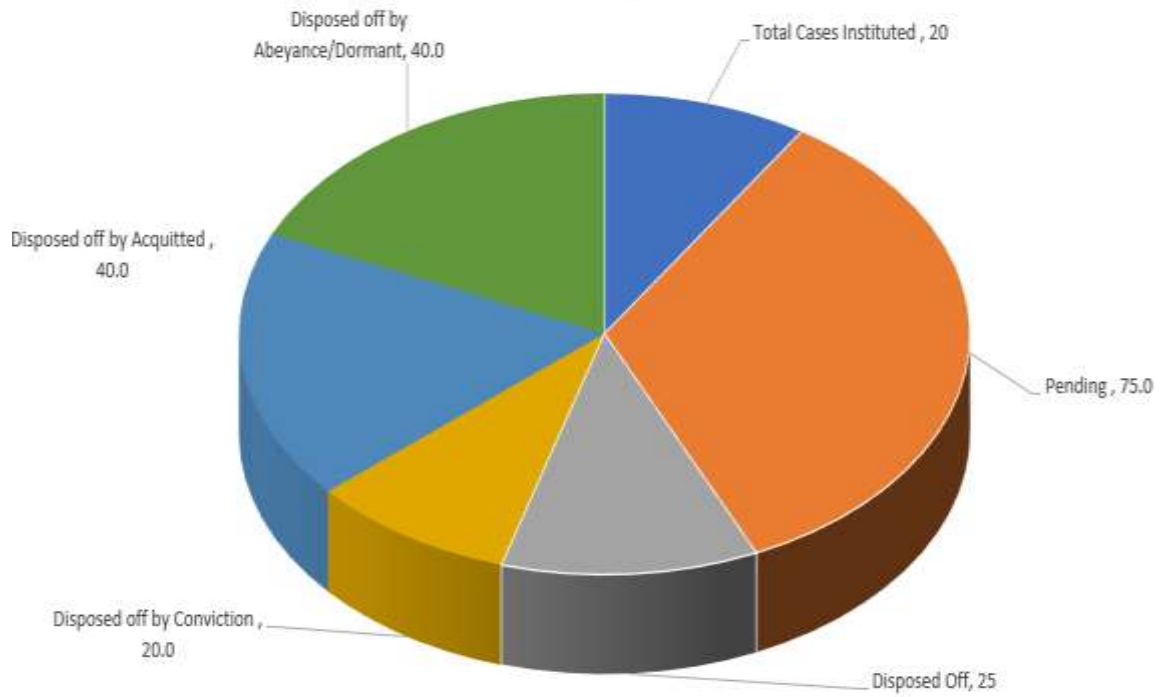
Rape Cases - District South
 During the period of 01 July 2021 to 30 June 2022
 Disposal Category Chart



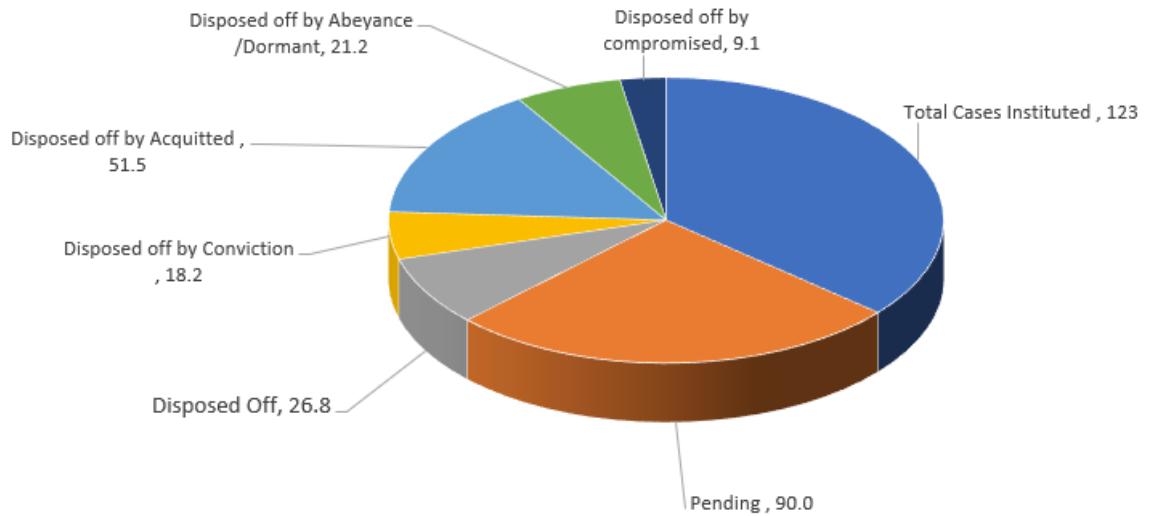
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Rape Cases - District Central
During the period of 01 July 2021 to 30 June 2022
Disposal Category Chart



Rape Cases - District Malir
During the period of 01 July 2021 to 30 June 2022
Disposal Category Chart



FINDINGS

In questionnaire 1 “In rape, murder cases, investigation officers not aware with basic knowledge, our medicolegal system frequently employs investigational techniques that are imprecise, insensitive, and frequently violent” all the sample size are approximately 30 which 73.3% lawyers, 60% Prosecutors, 76.7% Investigators, 83.3% of Forensic Experts and 80% of Presiding Officers agreed upon that crude, insensitive, and often brutal methods utilized, while 26.7% both lawyers and Prosecutors, 23.3% Investigators, 16.7% Forensic experts and 20% of presiding officers denied these quotes. Only 13.3% of the prosecutors denied to answer the above questionnaire. Overall strongest support was observed by forensic experts which is 83.3%. While highest non supporters are Lawyers and prosecutors which were 26.7%.

When examined the target samples with regard to the questionnaire No 2, the 76.7% lawyers, 50% prosecutors, 16.7% Investigators, 26.7% Forensic experts and 80% of Presiding Officers were agreed on that Investigation agencies are not properly trained about forensic protocols and their worthiness in establishing and proving the case in a benefitting manner. While 16.7% Lawyers, 40% of Prosecutors, 73.3% Investigators, 70% Forensic Experts and 20% Presiding Officers are not agreed on that Investigation agencies are not properly trained about forensic protocols, whereas 6.7% lawyers, 10% of both Prosecutors and investigators, 3.3% Forensic Experts and none of the presiding officers said that this is not applicable on them. In this case strongest supporter was observed by Presiding Officers which is 80%. While highest non supporters are investigators which were 73.3%.

In case of evaluating the most of the heinous case covering questionnaire No. 3 In heinous offence cases, lack of forensic science education and training in cases involving horrific crimes adversely affects police investigators and competent investigations was supported by 76.7% lawyers, 80% prosecutors, 16.7% Investigators, 30% Forensic experts and 70% presiding officers. While 6.7% Lawyers, 16.7% Prosecutors, 76.7% Investigators, 63.3% Forensic Experts and 6.67% presiding officers did not support to the entire questionnaire, while 16.7% lawyers, 3.3% Prosecutors, 6.7% both investigators and Forensic Experts and 23.3% the presiding officers did not answer said questionnaire. In this case strongest supporter was observed by prosecutors which is 80%. While highest non supporters are investigators which were 76.7%.

While investigating the questionnaire No 4 that is “Investigators are not qualified in Criminal investigation techniques used in modern ear to cope up with complete situations, which is seriously affect the conviction rate in crimes?”, this narration was supported by 80% lawyers, 60% prosecutors, 70% Investigators, 43.3% Forensic experts and 76.7% presiding officers. While 16.7% Lawyers, 33.3% Prosecutors, 26.7% Investigators, 53.3% Forensic Experts and 23.3% presiding officers did not compel with the said questionnaire. Further 3.3% of lawyers, Investigators and Forensic Experts, 6.7% of Prosecutors, and none of the presiding officers answered said questionnaire. In this case strongest supporter was observed by Lawyers which is 80%, while highest non supporters were observed by Forensic Experts which 53.3%.

During evaluation of questionnaire No.5 that is “Presently forensic laboratories in Sindh are incapable to cope up to deal impartially with forensic evidence in heinous offences”. The evaluation was strongly accepted by 80% lawyers, 26.7% prosecutors, 56.7% Investigators, 10% Forensic Experts and 66.7% presiding officers. Further 3.3% Lawyers, 70% Prosecutors, 36.7% Investigators, 83.3% Forensic Experts and 23.3% presiding officers did not accept this questionnaire. While 16.7% lawyers, 3.3% Prosecutors, 6.7% of both investigators and Forensic Experts and 10% presiding officers did not answer the said questionnaire. In this case strongest acceptance was observed by Lawyers which is 80%, while 83.3% highest non supporters were observed by forensic experts.

The questionnaire no 6 “Do you not think incompetency, lack of training, political pressure and meager resources are the main hurdle in dealing with the heinous crime cases?” were upheld by 86.7% lawyers, 26.7% prosecutors, 13.3% of both Investigators and Forensic Experts, and only 6.7% presiding officers which is the lowest. Further 13.3% Lawyers, 66.7% Prosecutors, 73.3% Investigators, 20% Forensic Experts and 86.7% presiding officers did not uphold this questionnaire. While 6.7% of both Prosecution and Presiding Officers, 13.3% investigators, and 66.7% forensic experts did not answer the said questionnaire. In this case strongest uphold in support was observed by Lawyers which is 86.7%, while the highest not supporters were observed by presiding officers which is 86.7%.

In case of evaluation of questionnaire No.7 that “Do you think rape and murder cases are not normally proved due to lack of expert investigation not followed with forensic evidence on part of investigation?”. 86.7% lawyers, 30% Prosecutors, 16.7% Investigators, 23.3% forensic Experts and 63.3% presiding officers are agreed that rape and murder cases are not normally proved due to lack of not followed with forensic as part of their investigation. While 13.3% lawyers, 60% prosecutors, 76.7% Investigators, 70% Forensic experts and 23.3% presiding officers denied the said quotation. Only 10% prosecutors, 6.7% of both investigator and forensic experts and 13.3% presiding Officers do not evaluate the questionnaire. Overall strongest evaluation support was observed by lawyers which is 86.7%. In this case strongest non evaluators were observed by investigators which is 76.7%.

During the investigation of questionnaire that “Do you not think heinous cases are dishonestly improved on assumptions instead of tangible proof?” was approved by 63.3% lawyers, 16.7% both prosecutors and Forensic Experts, 10% Investigators, and 23.3% presiding officers. While 30% Lawyers, 70% Prosecutors, 83.3% Investigators, 73.3% Forensic Experts and 53.3% presiding officers did not approve with the said questionnaire. Furthermore, 6.7% of both lawyers and Investigators, 13.3% Prosecutors, 10% forensic experts and 23.3% presiding officers did not answer the above questionnaire. In this case strongest support was observed by Lawyers which is 63.3%, while strongest condemned were observed by Investigators which 83.3%.

In dealing with questionnaire No. 9, Is it true that forensic laboratories, legal knowledge, resources, awareness, training, and financing can help police detectives crack more complicated cases?” were upheld by both lawyers and prosecutors were 86.7%, investigators and Presiding Officers both were 90% and 76.6% Forensic Experts. Only 3.3% of Forensic Experts did not support this questionnaire and answered as no. While 13.3% of both lawyers and Prosecutors, 10% of both investigators and Presiding Officers, and 20% forensic experts did not answer the desired question. In this question strongest support was observed 90% by investigators and presiding officers, while the only 3.3% of forensic experts did not support it.

In case of Questionnaire No. 10 “It's true that the majority of investigators are unfamiliar about Forensic Protocols used in criminal investigations to reduce the risk of contamination, which includes?” asking about understanding of forensic procedures needed to preserve the crime scene, manage it, and remove witnesses, as accomplished through a walkthrough of the scene. An investigation was conducted to confirm this, taking into account the testimony from the crime scene and the evidence that was obtained and stored., during examination of targeted samples showed 63.3% lawyers, 86.7% prosecutors, 43.3% Investigators, 100% Forensic experts and 90% presiding officers were agreed on the above questionnaire. While 13.3% Lawyers, 3.3% Prosecutors, 56.6% of Investigators, and none of the Forensic Experts and presiding officers are opposed. Whereas 23.3% lawyers and 10% of both Prosecutors and presiding Officers did not answer the question. In this case strongest support was observed by forensic experts which were 100%. In this matter strongest non supporters were observed by investigators which is 56.7%.

CONCLUSIONS

In Pakistan needs to begin building the scientific foundation required to locate and retain genetic evidence. Otherwise, justice and fair play will be lacking. In the Pakistani scenario, the use of such technology is more emphasized in the investigation and testing of criminals. A commission set up to reform the criminal justice system has reiterated that bringing technology into Investigations of crimes can aid in the system's efficiency. To enable the use of forensic technology in the investigation and prosecution of crimes, the pertinent laws have occasionally been altered. Yet, it can be claimed that the law has some gaps that need to be filled. Judges are also wary of relying on scientific knowledge and evidence because they take a narrow or the evidence presented to the court has certain deficiencies that prevent them from fully applying it.

The most important ensuring just administration of justice is the criminal law's slogan. The authenticity of forensic evidence exceeds that of eyewitness testimony without a doubt. The criminal justice system benefits from using forensics as scientific proof. We must address current issues if we are to advance. We must learn from the past, reflect, strengthen our community and change our culture.

This means working together to solve scientific problems while laying a solid framework for new, cutting-edge technology to assault the forensic ecosystem and holes in the current body of forensic evidence. Yet, we must make sure that the police and the investigating community fully recognize and use forensic science as a comprehensive problem-solving tool (eg using case study evaluation and interpretive methods). Is such a methodology embedded in an enabling framework, understands the contribution of certain types of evidence and makes suggestions about specific sub-sources, sources, activities or levels of harm in case-specific circumstances, rather than being limited to that one single measure.

Whenever a crime occurs, police officers, detectives, investigators, and forensic specialists are at the scene of every incident. They gather data that is then used to support conclusions or opinions made in court after being processed and examined at a forensic laboratory.

In both criminal and civil court cases, the conclusions and statements of forensic experts are an important means of evidence. In accordance with the relevant legal requirements of forensic expertise and interaction their study findings are appropriately incorporated into the proceedings in both civil and criminal contexts. If the witness, for example, is knowledgeable about the pertinent laws, the expert opinion is thought to be of high quality.

In the Pakistani scenario, the use of such technology is more emphasized in the investigation and testing of criminals. A commission set up to reform the criminal justice system has reiterated that bringing technology into Investigations of crimes can aid in the system's efficiency. To enable the use of forensic technology in the investigation and prosecution of crimes, the pertinent laws have occasionally been altered. Yet, it can be claimed that the law has some gaps that need to be filled. Judges are also wary of relying on scientific knowledge and evidence because they take a narrow or the evidence presented to the court has certain deficiencies that prevent them from fully applying it.

The most important ensuring just administration of justice is the criminal law's slogan. The authenticity of forensic evidence exceeds that of eyewitness testimony without a doubt. The criminal justice system benefits from using forensics as scientific proof. We must address current issues if we are to advance. We must learn from the past, reflect, strengthen our community and change our culture. This entails collaborating to address gaps in the forensic

evidence and scientific conundrums while laying the groundwork for the development of cutting-edge technologies that will disrupt the forensic ecosystem. Simultaneously, we have to make sure that the police and the investigative community understand forensic science completely and use it as a comprehensive problem-solving tool (eg using case study evaluation and interpretive methods). Is such a methodology embedded in an enabling framework, understands the contribution of certain types of evidence and makes suggestions about specific sub-sources, sources, activities or levels of harm in case-specific circumstances, rather than being limited to that one single measure.

RECOMMENDATIONS

1. If DNA profiles of samples from a population were stored in computer databanks (databases), Investigators could compare DNA profiles of biological evidence samples with a databank to search for suspects.
2. For the purpose of criminal justice system, investigating agencies have to move towards scientific evidence to establish a crime, and proper care and caution must be taken to preserve and protect the crime scene.
3. The tendency to rely on outdated investigation methods places big questions mark on the effectiveness of the criminal justice system, Crime scenes that are not managed well and do not rely on science will lead to poor quality evidence and erroneous acquittal.
4. The police force / investigation must make a concrete efforts to shift its investigations techniques to include and rely on forensic science and accordingly, train specialized officers in this field. 2024 SCMR 1085.
5. A "LIMS," also referred to as a laboratory information management system, is used to build infrastructure by automating evidence management and control, regulating the speed and accuracy of evidence by upholding protocols, and establishing a legal chain of custody.
6. The abuse testing facility must include a robotic frame, such as a B. mechanical DNA extraction unit, in order to streamline the labor-intensive and time-consuming portion of the DNA testing approach. The utility of computational DNA research frameworks is increased for professionals while limiting contamination and human mistake.
7. The preservation of forensic evidence must assure its dependability and accessibility during forensic investigations and legal proceedings. Reliable equipment is needed to create the right circumstances for evidence collecting, including safety frames, natural control frames, enclosure temperature screens, and dehumidifiers. This effort will improve capability for gathering evidence.
8. At the President's direction, the Attorney General will support creative work on novel methods to simplify DNA testing in order to promote the cause of justice. In addition, the President requested that the Attorney General's Office create flagship initiatives to completely coordinate the use of Genetic innovation to obliterate infractions and explore benefits for both law enforcement and public welfare.
9. The Attorney General will carry out in-depth logic investigations through an exhibition project on the usage of DNA traces in drives in order to investigate the consequences more thoroughly of extended DNA trace assortment on special security responsibilities and legal requirements. This study will aid in determining the degree to which the desire of law enforcement to gather more accurate DNA evidence and the investigators ready to expand their capacity to submit that evidence

in court for correction would benefit public safety. In order to include the requirements of center preparation and outreach demonstration into daily activity, several venues were chosen. At least one legal requirements office will be chosen in each area to handle the labor-intensive preparation of numerous types of genetic information to establish resources that will be devoted to looking into and bringing these instances to justice using Genetic evidence. Also, investigators are trained in the most specific techniques for effectively presenting DNA evidence as well as how to employ DNA forensic advancements to resolve open-ended and "cold" cases. Units that have gotten training and upgraded equipment are compared against locations that have not. The effect of expanded DNA evidence sets on ongoing security and law enforcement operations will be evaluated by subsequent correlations. Activities will, for instance, look at whether the policy has been expanded, whether DNA has aided the review process, the quantity of cases that have been successfully prosecuted, the quantity of cases in which objections have been raised because Genetic evidence was present, financial resources coming from the use of forensic evidence, and an increase in victim reaction. State and municipal governments will be able to use the information obtained to make more informed decisions and recognize the potential of scientific DNA as a tool to solve crimes.

10. The Attorney General was given a directive by the President to establish a National Forensic Commission to collaborate with decision-makers to analyses local criminology requirements and educate the public about employing legal advances to confront wrongdoing. The commission will have two primary responsibilities:

To identify prospective logical advancements that can be utilized to support legal claims, and to (1) Develop long-term plans for expanding the application of current criminological advancements to prevent crime and protect the public.

Members of the commission shall be chosen by the Attorney General from among competent and experienced academic associations and accreditation bodies, as well as from the These people possess extensive knowledge in the fields of criminal justice and criminology, including scientific toxicology, evidence-based legal pathology independent of DNA, measurable science, assessment of tool and weapon markings, inert fingerprinting, crime scene investigations, and advanced evidence. The commission will have an impact on judges, investigators, attorneys, accident advocates, and various criminal justice professionals.

The Commission will assess the state of quantified science in all its facets and provide recommendations on how to harness both recent and historical advances to advance open security. Additionally, the Commission will act as a frequent venue for examining programmes and strategies, and it may offer guidance to help state and environmental law enforcement agencies make good use of these advancements to deal with infractions.

11. Examiners, attorneys, and judges must properly prepare for the presentation and utilization of Genetic evidence to establish a straightforward guidance on cases incorporating this evidence. Specialist instruction and assistance are provided to investigators so they can manage DNA evidence in cold cases, respond to requests for post-conviction DNA testing, and come up with honest, original solutions to maximize the impact of DNA evidence in court. Specialist instruction and assistance are provided to investigators so they can manage DNA evidence in unsolved cases, respond to requests for post-conviction testing, and create lawful, imaginative strategies to capitalize on the potential of DNA innovation. The prize was accepted by the state and ward coroners' associations for altering the program and distributing materials to aid in the coroner's presentation of the evidence before the court and jury. Educate defense lawyers on the application and risks of DNA evidence in

situations when there is natural evidence. There will be award money made available to explore real school initiatives or collaborations with advocacy groups in order to offer resources and training for quantifiable DNA innovation. Judges need to be prepared with the necessary precise and logical information in order to make wise judgements in situations involving Genetic evidence. Public law gatherings and associations will be entitled to participate in prize grants.

REFERENCES

- Frank Crispino. (2018). Nature and place of crime scene management within forensic sciences. *Sci. Justice*, 48, pp. 24-28.
- Kirsten Edwards. (2005). Ten things about DNA contamination that lawyers should know. *Crim. Law J.*, 29 (2), pp. 71-93.
- Narejo, N., and Avais, M. A. (2012). Examining the Role of Forensic Science for the Investigative-Solution of Crimes. *Sindh Univ. Res. Jour. (Sci. Ser.)* Vol, 44(2), 251- 254
- Population Welfare Department. (2018). Government of Punjab n.d. <https://pwd.punjab.gov.pk/population/profile>.
- Porter G. (2011). A new theoretical framework regarding the application and reliability of photographic evidence. *Int. J. Evid. Proof* 15, 26–61
- Punjab Forensic Laboratory. https://pfsa.punjab.gov.pk/guidelines_for_evidence
Punjab Forensic Science Agency n.d. Accessed on 5 June 2018.
- Pyrek, K. (2010). Forensic science under siege: The challenges of forensic laboratories and the medico-legal investigation system. Elsevier. *Forensic Protocols and Investigation of Crimes in Pakistan: A Case of Sindh* 630
- Qanon-e-Shahat Ordinance. (1984). Article 128 / Section 112: ‘Birth during marriage, conclusive proof of legitimacy.
- Qanon-e-Shahat Ordinance. (1984). Article 128.
- Richard Reyes. (2017). Tactical criminal Investigations. understanding the dynamics to obtain the best results without compromising the investigation. *J. Forensic Sci. Crim. Investig*, 2 (2), pp. 1-4
- Saboor, Abdul, Memon. (2022). Pivot Role of Forensic Science within the Criminal Investigation. SSRN: <https://ssrn.com/abstract=4280336>.
- Sadaf. Mahmood. (2022). Utilization of forensic science in legal justice system of Pakistan; A critical legal perspective. *International Journal of Multidisciplinary Research and Development* ISSN: 2349-4182, Print ISSN: 2349-5979. Published: 03-03-2022 Volume 9, Issue 3, 2022, Page No. 8-13.

CASE LAWS

Pakistan Legal Decision. (2021). Supreme Court. Page 362.