

## DNA Evidence in Pakistan



**Zafar Iqbal Kalanauri <sup>1</sup>**

### **What is DNA Evidence?**

One of the most reliable forms of evidence in many criminal cases is in our genes, encoded in DNA (deoxyribonucleic acid). DNA evidence can be collected from blood, hair, skin cells, and other bodily substances. It can even be used to solve old crimes that occurred prior to the development of DNA-testing technology. Similar to fingerprints, each individual has a unique DNA profile (except for identical twins, who share the same genetic code). But unlike fingerprints, only a minuscule amount of genetic material is needed to identify a suspect. A DNA (Deoxyribonucleic Acid test) test involves a detailed scrutiny of the DNA composition of an individual, which is unique to that person. DNA is the genetic make up of an individual and it is found in every cell of the body. For example, it is in blood, saliva, skin and hair. This protein is responsible for the genetic instructions required to create an organism that reflects its own unique traits and the ones that are inherited from the parents too. Everyone has DNA. A person inherits their DNA makeup from their parents. Therefore, blood relatives share similar DNA.

People undergo DNA testing for various reasons, some of which are genealogical, clinical, and legal purposes. A genealogical DNA test is usually meant to trace the ancestry of an individual, and for comparing results to know the historical and geographical origins. This test is usually for research purposes, especially in population genetics. DNA testing compares genetic material from 2 or more people to determine if they are biologically related. The genetic material for testing is usually taken from a mouth swab or blood sample.

---

<sup>1</sup> Zafar Iqbal Kalanauri, Arbitrator, Mediator, Master Trainer, Advocate Supreme Court of Pakistan, White Collar Crime Investigator, Adjunct Faculty of Law at SAHSOL, Lahore University of Management Sciences (LUMS) & Law College University of Punjab, SAF Centre, #3 3rd Floor, 8-Fane Road Lahore 54000, Pakistan.

Cell: (92) 300- 4511823 E-mail: kalanauri@gmail.com ; Web: <http://www.zafarkalanauri.com>

Hence, the values of these tests vary as per the test performed and the intention for which the test is being conducted. DNA tests happen to be the most accurate when looking for specific results and can be very subjective if used for aspects that require a broader perspective that goes beyond generations in count.

### **DNA Evidence: A Brief History**

The science of DNA testing was developed in 1985 by British scientist Alec Jeffreys. Genetic evidence was first tested using his method one year later to solve a double homicide in England and to link the suspect to other previously unsolved rapes and murders in the area. In 1987, a Florida rapist became the first criminal defendant in the United States to be convicted through DNA. Genetic material collected at crime scenes and preserved in evidence lockers also has become an important factor in exonerating those who were wrongly convicted of violent crimes.

As DNA became the gold standard for identifying criminal suspects, the FBI and police departments throughout the U.S. started assembling databases. Additionally, sex offenders in all states are now required to submit DNA samples to their local police department. Unfortunately, many crime labs are overwhelmed with backlogs of genetic samples and may be unable to process them in a timely fashion.

### **How Does DNA Testing Work?**

A sufficient amount of DNA may be found in usually any type of biological evidence. For violent crimes, such evidence typically comes from blood or other bodily fluids. Hair and skin cells left at the crime scene also may provide investigators with enough DNA for testing purposes. DNA evidence is analysed using the polymerase chain reaction (PCR) method, which allows for very small samples to be tested and identified. Once the sample is tested, it may be cross-referenced with DNA profiles already in a database or with genetic data provided by a suspect. While DNA testing is not completely fool proof, it is more than 99 percent accurate (in fact, there is only a one in one billion chance that the DNA of two individuals will match). Typically, errors in testing are the result of mix-ups in the lab or the contamination of samples. Additionally, each state has specific rules for DNA sample collection and handling. Courts might not allow the use of genetic evidence in court if these requirements are not met.

### **Other Uses of Genetic Evidence**

In addition to criminal investigations and trials, DNA can also be used to exonerate wrongly accused individuals. This is particularly important for those convicted of serious crimes solely on the basis of eyewitness testimony, which is not always reliable. More than 250 people have been exonerated to date through post-conviction DNA tests, according to the Innocence Project in USA.<sup>2</sup>

Also, DNA can be used to determine paternity in child support cases; to identify the remains of crime and accident victims; and to conduct genealogical research.

---

<sup>2</sup> <https://www.innocenceproject.org/dna-exonerations-in-the-united-states/>

## Evidentiary Value

DNA test provided the courts a mean of identifying perpetrators with a high degree of confidence. By using DNA technology, the courts were in a better position to reach at a conclusion whereby the real culprit would be convicted, potential suspects would be excluded and wrongfully involved accused would be exonerated<sup>3</sup>

In Pakistan, there is no particular legal framework that specifically deals with DNA evidence, and hence the courts have to manoeuvre while remaining within the legal framework hitherto available. DNA evidence is evaluated in the context of Articles 59<sup>4</sup> and 164<sup>5</sup> of the Qanun-e-Shahadat Order 1984 ('QSO'). The former provision states that expert opinion on matters such as science and art falls within the ambit of 'relevant evidence', whereas the latter provision provides grounds for admissibility of various modes of proof made available due to advancements in science and technology. Under the present legal framework, the technician who conducts experiment to scrutinize DNA evidence is regarded as an expert whose evidence/opinion is admissible in court. This legal framework is no different from the one governing the admissibility of a medical opinion, which gives the impression that DNA is another kind of medical evidence, and that a DNA expert is like a doctor. If DNA is evaluated from this perspective exclusively, we might not fully benefit from its usage. The main distinction between medical opinion and DNA evidence is that the former does not identify offenders<sup>6</sup> whereas the latter does so with a high degree of accuracy. Hence, it would be more appropriate to evaluate it from a different legal perspective. But as we shall see, the courts have not interpreted the law progressively enough, and there is much ground to be covered.

The Pakistani legislature has enacted Article 128 of the QSO in line with the Hanafi point of view.<sup>7</sup> According to this provision, a child born after six lunar months of marriage and within two years after dissolution of marriage will be considered legitimate and attributed to his/her putative father. According to the said provision, this fact is regarded as a 'conclusive proof'

---

<sup>3</sup> 2013 SCMR 203.

<sup>4</sup> Article 59 of QSO: 'Opinions of experts: When the Court has to form an opinion upon a point of foreign law, or of science/or art, or as to identity of hand-writing or finger impressions, or as to authenticity and integrity of electronic documents made by or through an information system the opinions upon that point of persons specially skilled in such foreign law, science or art, or in questions as to identity of hand-writing or finger impressions or as to the functioning, specifications, programming and operations of information system, are relevant facts. Such persons are called experts....'

<sup>5</sup> Article 164 of QSO: 'Production of evidence that has become available because of modern devices, etc.: In such cases as the Court may consider appropriate, the Court may allow to be produced any evidence that may have become available because of modern devices or techniques.'

<sup>6</sup> 2006 SCMR 1786 Sikandar v The State.

<sup>7</sup> Article 128 of QSO: 'Birth during marriage conclusive proof of legitimacy: (1) The fact that any person was born during the continuance of a valid marriage between his mother and any man and not earlier than the expiration of six lunar months from the date of the marriage, or within two years after its dissolution, the mother remaining unmarried, shall be conclusive proof that he is the legitimate child of that man, unless—

(a) the husband had refused, or refuses, to own the child; or

(b) the child was born after the expiration of six lunar months from the date on which the woman had accepted that the period of iddat had come to an end.

(2) Nothing contained in clause (1) shall apply to a non-Muslim if it is inconsistent with his faith.'

and no evidence can be admitted to refute it.<sup>8</sup> There are two exceptions to this: (a) if the child is disowned by the father, and (b) if the child is born after six lunar months once the mother declares expiry of her *iddat* period.<sup>9</sup> In view of the aforementioned principles, the legal framework of paternity does not leave much space for the admissibility of DNA evidence. One of the earlier reported cases on the subject is *Muhammad Arshad v Sughran Bibi*.<sup>10</sup> In this case, a suit for recovery of maintenance was filed by the mother and her minor son. The petitioner (father) disowned the minor while responding to the claim. For substantiating his contention, an application was filed by the petitioner in a Family Court praying for a DNA test of the child which was dismissed. Thereafter, the petitioner filed a petition in the Lahore High Court to challenge the order of the Family Court dismissing his application. While considering his petition, the Court observed that the determination of a child's legitimacy entailed far-reaching consequences, and therefore, the determination of such crucial and vital issue should not be done in a cavalier manner. The Court felt that the accusations levelled by the petitioner and his act of disowning the child born in the wedlock needed to be substantiated through tangible proof and credible evidence, which were found to be missing in the petitioner's case. Following the traditional stance supported by Pakistani law, the Court highlighted that the paternity of a child born in a lawful wedlock invariably carries the presumption of truth and thus the mere denial could never take away the status of legitimacy as 'child follows the bed'. The metaphor of bed in the *hadith* implies the owner of the marital bed, i.e. the woman's husband. The Court further observed that if the petitioner was right in his stance, he should have resorted to the process of *liyan*<sup>11</sup> instead of challenging the paternity for the first time in a suit for maintenance. Consequently, the petition was dismissed *in limine* and the Family Court's order of refusing the request for DNA test was held to be lawful. It appears that the Court was reluctant to go beyond the conclusive presumption of paternity enshrined in Article 128 of the QSO, and for this purpose, it foreclosed the process of discovery of a piece of evidence (i.e. DNA) which might have jeopardized the concept of presumptive paternity/legitimacy without there being any other credible evidence.

First, DNA evidence is presented in court through expert testimony. The witness must be properly qualified as an expert. Second, the DNA evidence must pass the tests of admissibility. Third, there are several recognized DNA testing methods. This includes Polymerase Chain Reaction and Short Tandem Repeat.

Test would not be conducive and the same would not serve any useful purpose except unnecessary delay, multiplicity of litigation, which could create other complications. High Court could not assume role of investigator to hold inquiry. DNA test by itself could not set the matter at rest, when it was being opposed by contesting party with right to produce its rebuttal. Such proceedings would tantamount to fresh trial needing a factual inquiry, which

---

<sup>8</sup> Article 2 (9) of QSO: 'When one fact is declared by the Order [QSO] to be conclusive proof of another, the Court shall, on proof of the one fact, regard the other as proved, and shall not allow evidence to be given for the purpose of disproving it.'

<sup>9</sup> Article 128 of QSO.

<sup>10</sup> PLD 2008 Lah 302.

<sup>11</sup> If a husband accuses his wife of adultery, but cannot bring four witnesses to prove it, then the spouses have to go through the process prescribed in the Quran and termed as *Liyan*. According to this process, the spouses individually swear four times as to the truthfulness of their assertions and then during the fifth time invite curse upon them if any of them has told a lie. Thereafter, the marriage stands dissolved and if the divorced wife gives birth to a child, he/she will not be attributed to the husband.

was beyond the scope of constitutional jurisdiction. There would be no certainty with such test report, when dead body and grave might not be identifiable due to lapse of considerable period and carrying out such test under grave doubts would create further complications instead of resolving the matter. High Court therefore, declined to allow DNA test.<sup>12</sup> Utility and evidentiary value of DNA test is acceptable, but not in a case falling under the penal provisions of Zina punishable under Hudood Laws having their own standard of proof<sup>13</sup>

Forensic DNA profiling has been under intense judicial scrutiny by the courts for over 2 years. Even so, an overwhelming majority of the courts have admitted forensic DNA evidence after reviewing it under the varying standards traditionally afforded novel scientific evidence. In doing so, the courts have recognized in numerous decisions that genetic profiles developed from an individual's DNA are reliable, probative, and objective.

However, despite the many favourable decisions, DNA evidence, if challenged, must continue to undergo a pre-trial review, at least until a court of appeals in the jurisdiction in which the evidence is offered addresses the question of whether DNA evidence is acceptable. At such hearings, challenges to the evidence place at issue the ability of the forensic laboratories to match similar DNA profiles reliably, and thereafter, the ability to assess the frequency that the matched profile is expected to occur in the U.S. population. However, it is anticipated that with the continued strong support of the scientific community, prosecuting attorneys, and investigators, DNA profiling will soon be accepted by trial courts as routine evidence. In a case titled as Muhammad Aslam Khan Vs. State, the Honourable Karachi High Court observed that D.N.A. test was almost a conclusive proof of one's identity.<sup>14</sup>

### **Admissibility Standards**

Traditionally, two standards have been used to admit novel scientific evidence in courts. Specifically, courts have adopted either the "Frye standard" or the "relevancy standard" when deciding whether novel scientific evidence, such as DNA profiling, will be admitted for use in court.

### **Judicial Acceptance**

Forensic DNA profiling has been reviewed extensively by the courts under the varying standards afforded novel scientific evidence, and the number of favourable decisions is encouraging. An overwhelming majority of courts have admitted forensic DNA profiling results from the three major laboratories involved in forensic DNA analysis.

A very few unreported trial court decisions have also rejected DNA profile evidence offered in a criminal proceeding. These courts have rejected DNA evidence for differing reasons, to include the existence of some dissent in the scientific community over some aspects of the approach to population statistics and the complexity of the evidence. However, the rulings that reject DNA evidence because of some divergence in the scientific community are clearly not consistent with the standards established by "Frye". Because "Frye" requires only that the scientific technique be generally accepted in the scientific community, some divergence in the

---

<sup>12</sup> 2010 YLR 1234.

<sup>13</sup> PLD 2012 FSC 1.

<sup>14</sup> 2008 PCr.LJ 1623.

scientific community is expected. These isolated adverse decisions have not generally been followed by other courts in the same jurisdictions that have admitted DNA evidence in criminal trials. DNA test provided the courts a mean of identifying perpetrators with a high degree of confidence. By using DNA technology the courts were in a better position to reach at a conclusion whereby the real culprit would be convicted, potential suspects would be excluded and wrongfully involved accused would be exonerated. Administration of DNA tests and preservation of DNA evidence should be made mandatory in rape cases.

### **Defense Challenges to Admissibility**

Major defense challenges are mounting in duration and magnitude as defense attorneys seek to counter the potential impact on the jury of forensic DNA profiling. These challenges focus on bias, matching, and population statistics.

#### **Bias**

Few defense experts contend that the forensic test is biased against the suspect, since the examiner is aware of which samples the contributor expects will match. However, the fact is the FBI's DNA test results actually exclude the named suspects in about one-third of the submitted cases, often when traditional serological examinations had included the suspect as the potential source of the sample. These statistics are similar to those reported by other laboratories performing forensic DNA analysis.

#### **Matching**

Experts for the defense still challenge the ability of the forensic DNA laboratories to determine reliably a match given the deteriorated or degraded condition of most forensic samples. They contend that degraded samples cause the markers to shift during the processing of the sample to an unknown degree, possibly resulting in a false matching of samples. No court, however, has found these criticisms to be valid. Now I would like to dilate upon the question of conducting the DNA Test. DNA Test is not to be directed as a matter of routine in cases where the father refuses to acknowledge his child born during lawful wedlock, for the reason that otherwise the presumption under Articles 117, 118, 119 and 128 of Qanun-e-Shahadat Order, 1984 that a child born during the continuance of a valid marriage and within two years after its dissolution, provided the mother remaining unmarried during this period, shall be conclusive proof that he is legitimate child of that man, unless the man denies the same

#### **Population Statistics**

The principle focus of current attacks is on the population statistics reported by the laboratory after a match has been established. Because the current application of the technology does not yet exclude one profile from that of every other person in the world, DNA profiling laboratories sample a portion of the population to determine how common or rare certain DNA profiles occur in the population. From these data, the laboratory then develops a statistical estimate of how frequently a particular DNA profile is likely to appear in the U.S. population.

Few scientists have testified that the FBI has not sufficiently addressed the differences among ethnic subpopulations within a race, and therefore, cannot properly assess the resultant effect upon the statistical calculations provided for a match. However, only two trial courts have accepted the opinions of these experts in FBI Laboratory cases as representative of any

significant part of the scientific community, and therefore, rejected the population data estimates provided by the FBI.

However, this objection is not expected to persist. The great majority of courts reviewing DNA profiling evidence under the differing standards of review have considered the challenges to forensic DNA profiling and now recognize the technique as reliable and generally accepted by the scientific community. Moreover, the scientific community and the FBI Laboratory have developed and continue to develop data that are directly responsive to the issues raised in the pre-trial hearings.

This information continues to be disseminated to the appropriate community of scientists. As this information is disseminated more fully, the consensus of the community should be manifestly more apparent in favour of the FBI Laboratory's conservative use of population statistics in DNA profiling.

### **Investigative Considerations**

While DNA profiling is fast gaining acceptance by the courts, investigators should be that forensic DNA evidence does not yet positively identify the depositor of a biological sample. It is but one factor of identification and cannot be relied upon alone to support a determination of innocence or guilt.

Given the current state of the technology, forensic DNA analysis is limited to determining whether the known biological sample from an individual is genetically similar to a questioned biological sample. Moreover, the relevance of a match or an exclusion varies depending on the circumstances in each case

Also, investigators must be aware of the limitations of DNA analysis that will impact on the decision of whether a person should be excluded as a suspect in the crime. For example, a woman is raped, and some semen is recovered. But, suppose the DNA profile of the semen recovered does not match the DNA profile of the suspect. Is the suspect exonerated ? Perhaps not.

Consider, for example, that the victim may have had recent, consensual sexual relations with her husband or a boyfriend before the rape occurred. The husband or boyfriend of the victim may be the sole contributor of the sample taken from the victim immediately after the rape, if the person responsible for the rape did not contribute a semen sample of evidentiary value. Consequently, the forensic DNA profile will not match the suspect's profile, but the absence of the suspect's DNA does not exclude the suspect.

Accordingly, when additional (non-DNA) evidence gives the investigator cause to believe that a particular suspect is responsible for the crime, despite the DNA test results that suggest the exclusion of the suspect, it is essential for the investigator to determine whether the victim had consensual sexual relations before the rape occurred. If so, a DNA sample should be obtained from that person for comparison to the forensic sample.

Samples taking technique in Pakistan is not according to the International Standard to be relied upon without any shadow of doubt. Often the sample taken by the Police official who has not expertise in the DNA field. The Sanctity of sample is not trust worthy. There is no Standard Laboratory available at the present at each and every station or major city of Pakistan.

The famous case appeared in shape of Uzma Ayub case wherein number of person were charged for raping and the victim gave birth to a child but lack of sufficient and reliable laboratory the DNA test result came against the charge.

A match between the forensic profile and the husband's and/or boyfriend's profile indicates only that the DNA of the person believed responsible for the crime was not recovered from the victim. It follows that the principal suspect cannot be exonerated as the one who committed the crime on the basis of the DNA test results.

Best possible evidence in the case in order to find out the truth or falsity of the allegation without loss of time would be the DNA test. Need for scientific verification through blood/semen grouping had been repeatedly expressed by superior judiciary, particularly in rape cases. Prosecution agencies should take heed and use latest available technology to trace and locate the actual criminal. DNA finger printing was a successful clincher. Under Art. 164 of Qanun-e-Shahadat, 1984, Court might allow to be produced any evidence available because of modern devices or techniques. Holy Qur'an and Sunnah did not forbid employing scientific or analytical methods in discovering the truth. On the contrary the discovery and investigation had been strongly recommended by the Holy Qur'an and Sunnah. Courts in matters relating to Offence of Zina (Enforcement of Hudood) Ordinance, 1979 had all the powers to permit reception of evidence including resort to DNA test, if demanded by the occasion. Fundamental duty of the courts is to arrive at the truth without depriving an affected party to establish its point of view.<sup>15</sup>

The Article 128 is couched in language which is protective of societal cohesion and values of the community. This appears to be the rationale for stipulating affirmatively that a child who is born within two years after the dissolution of the marriage between his parents (the mother remaining un-married) shall constitute conclusive proof of his legitimacy.

The Court further pointed out that Muslim scholars as well as legislators of the QSO were not oblivious to the gestation period of a fetus, and even then, they extended the presumption of legitimacy up to two years, which shows 'the legislative intent as well as the societal imperative of avoiding controversy in matters of paternity.'

The Supreme Court of Pakistan has largely been guided by Article 128 of the QSO and a preference for the collective interest of society over an individual's interest in excluding DNA evidence in paternity cases. The Court also buttressed its conclusion by observing that Article 128 is founded on the traditionally recognized religious perspective. Hence, unless that religious perspective is revisited, DNA evidence will remain inadmissible in paternity disputes.

As far as the argument of preferring collective interest over an individual's interest is concerned, it may lead to another conclusion in a different set of circumstances which would become evident during our analysis in the latter half of this section. The judiciary's approach in dealing with sexual offences is markedly different from that in paternity disputes, but the overarching impact of the present legal framework in laying down its parameters cannot be overlooked.

---

<sup>15</sup> PLD 2010 FSC 215.



Sexual offences are another stream of cases in which Pakistani courts deal with DNA evidence. The judicial approach in this respect is opposite to the one which we have noted in paternity disputes. A question that inevitably comes to mind is: why is there such a divergence? The answer to this question lies in the difference in legal frameworks governing the two streams of cases, as enshrined in the QSO. DNA evidence has become prominent because of the advancements in science and technology. Any piece of evidence which has become available by advances in science and technology is declared admissible by Article 164 of the QSO. The technician who conducts a DNA test is an expert witness, and his opinion is made admissible under Article 59 of the QSO. Moreover, there is no express provision like Article 128 of the QSO foreclosing admissibility of evidence by articulating a conclusive presumption as we have noted in paternity disputes in the previous sub-section.

The availability of an encouraging legal framework for admissibility of DNA evidence in sexual offences does not mean that it is sufficient for awarding DNA evidence its due role in investigation of crimes. This legal framework has adversely impacted DNA evidence in different ways. Treating DNA evidence as a form of expert evidence has eclipsed its significance and potential to be used as primary evidence. Expert evidence/opinion in Pakistan is regarded as corroboratory evidence, and thus cannot be treated as primary evidence. It implies that no case can be decided on the basis of expert evidence exclusively in the absence of any other primary piece of evidence, such as oral evidence. Properly collected, preserved and analysed DNA evidence merits treatment as primary evidence in itself.

Moreover, the approach of judicial officers and investigating officials has already been settled vis-à-vis expert evidence, and that settled approach is likely to diminish the important role of DNA evidence in numerous ways. For instance, the non-availability of any expert evidence in a case due to carelessness of investigating agencies does not prompt the courts to direct them to procure it, as the courts in such a situation do not feel legally obliged to take any punitive action or play an active role to ensure the availability of expert evidence. This approach is shaped by the fact that if any particular piece of evidence is not brought before them, its unfavourable implications will have to be borne by the concerned party, and the courts in an adversarial system are not bound to go an extra mile to procure a missing piece of evidence. During our analysis of the case law, we will observe this undesirable aspect of the present legal framework.

Another by-product of this sitting-on-the-side-lines approach of the Pakistani judiciary is that we do not find other cases, such as property offences and homicide, where DNA evidence has been brought before the courts or a direction is issued by them to produce DNA evidence before them. In technologically advanced countries, DNA evidence is commonly used in the investigation of offences relating to property<sup>16</sup> and homicide.<sup>17</sup> This passive approach is partially attributable to the lack of requisite scientific resources and infrastructure.

In *Muhammad Shahid Sahil v The State*,<sup>18</sup> the petitioner was alleged to have committed rape, and as a result, the victim conceived and gave birth to a baby girl. The victim made an application for conducting a DNA test of the petitioner/accused, which was accepted by the trial court. The Court directed the petitioner/accused to appear for a DNA test in order to

---

<sup>16</sup> Michael Briody, 'The Effects of DNA Evidence on Property Offences in Court' (2005-2006) 17 (3) Current Issues Criminal Justice 380.

<sup>17</sup> Michael Briody, 'The Effects of DNA Evidence on Homicide Cases in Court' (2004) 37 (2) Australian & New Zealand Journal of Criminology 231.

<sup>18</sup> PLD 2010 FSC 215.

ascertain whether the victim's daughter was related to him or not. The petitioner/accused challenged the above order before the High Court. The latter did not find any legal infirmity in the order and confirmed it. The Court observed that once a DNA test is conducted, its report would be produced as evidence by summoning the expert who conducted the test. The accused would have an opportunity to cross-examine the expert, and that would be sufficient to grant him a fair opportunity to question the validity of the evidence. The Court said that DNA evidence was the best available evidence in this case for unearthing the truth without loss of time. The Court noted: The prosecution agencies should take heed and use latest available technology to trace and locate the actual criminal. Under Article 164 of QSO, a court might allow to be produced any evidence available because of modern devices or techniques. Furthermore, the Holy Qur'an and Sunnah did not forbid employing scientific or analytical methods in discovering the truth. On the contrary, the discovery and investigation had been strongly recommended by both. The courts in matters relating to Offence of Zina (Enforcement of Hudood) Ordinance 1979 had all the powers to permit reception of evidence including resort to DNA test, if demanded by the occasion. It is fundamental duty of the courts to arrive at the truth without depriving an affected party to establish its point of view.

Consequently, the accused's petition was dismissed and the Court directed him and the victim along with her daughter to appear for a DNA test. It is pertinent to point out that the above case tends to border on validating the establishment of paternity of a child conceived as a result of sexual assault through DNA evidence, though as we have seen already, this evidence is discouraged in paternity disputes. While this may seem to be the case at the outset, it would be incorrect to conflate the two situations primarily because a biological father is not treated the same way as a legal father. Under the present legal system of Pakistan, a legal father is the person who has been validly married to a child's mother to whom the child is born during a specified time after the marriage or its dissolution.<sup>19</sup> Moreover, the case at hand is different from the cases reproduced in the previous sub-section owing to distinguishable facts. In the earlier cases, the purpose of the litigants is to question paternity in civil litigation, particularly when the legal framework has raised a conclusive presumption in favour of legitimacy, whereas in the present case, the objective is to establish an alleged rape, a criminal offence, by linking the daughter with an alleged offender through DNA. It would appear that the present legal framework does not at least debar any kind of evidence likely to unearth the truth in such cases.

In *Salman Akram Raja v Government of Punjab*,<sup>20</sup> the Supreme Court of Pakistan made an attempt to remedy the lack of a specialized legal framework for utilization of DNA evidence. The Court directed that DNA tests be conducted in all sexual offences, and that DNA samples be preserved as well. This case was public interest litigation initiated by the Court *suo moto* in response to an attempted suicide by a minor victim of rape on her failure to get her complaint registered against influential offenders. Concerning DNA, the Court observed that it provided a mean[s] of identifying perpetrators with [a] high degree of confidence... [and] by using DNA technology the courts would be in a better position to reach at a conclusion whereby the real culprit would be convicted, potential suspects would be excluded and wrongfully involved accused would be exonerated.

The Court cautioned that DNA evidence is not infallible and should not be taken as a conclusive proof. It should always be acted upon after corroboration from other pieces of evidence. This caution is appropriate and timely as sometimes people indulge in exaggerating DNA's

---

<sup>19</sup> See Article 128 of QSO.

<sup>20</sup> 2013 SCMR 203.

accuracy. DNA evidence is ‘largely rooted in probabilities, even a confirmed “match” does not supply concrete proof of guilt’.<sup>21</sup>

The Supreme Court also engaged with the issue of consent of a victim and an accused to DNA testing. It was held that the victims could not be coerced to provide a sample for DNA testing or any other medical test because it infringes upon their personal liberty. On the other hand, the consent of the accused persons is not a pre-requisite for conducting DNA tests, and their sample can be extracted without their consent because it would facilitate in ascertaining the truthfulness of allegations.

Despite the significance of this decision in highlighting the role of DNA evidence, it has not so far brought a large-scale shift among the investigating agencies in their attitudes towards the collection of DNA evidence in all sexual offences. Moreover, the decision has not specifically encouraged the use of DNA evidence in other kinds of offences such as those related to property and homicide. At any rate, DNA evidence is being received in sexual offences by courts in Pakistan, but the analysis of the cases below would demonstrate its divergent and minimalistic use, reinforcing the case for the re-evaluation of the present legal framework.

A positive DNA report has implications for an accused and it substantially reduces his chances of acquittal. In *Zulfiqar Ali v The State*,<sup>22</sup> an unmarried girl was sexually assaulted twice by her own father before marriage, but she was reluctant to report it due to family pressure and the adverse effects it would have on her marriage prospects. However, after being assaulted for the third time, she decided to report it to police by registering a First Information Report (‘FIR’). The version of the victim’s story was fully supported by her mother, who was aware of the abuse. Their statements were found to be convincing and were corroborated by the reports of the chemical examiner and a DNA test. The only adverse factor in the narrative presented by the prosecution was of the delay in the registration of the FIR, which was plausibly explained. In these circumstances, the Court convicted the accused of rape. In *Imran alias Manoo v The State*,<sup>23</sup> a woman was kidnapped and raped. An FIR was lodged after an unexplained delay of eight days. The medical examiner found the hymen of the victim to have been torn earlier than the alleged incident. The statement of the victim did not inspire confidence, and was insufficient in establishing the accused’s guilt. In these circumstances, the Lahore High Court maintained the conviction after reducing the imprisonment awarded by the trial court on the basis of the evidence of a doctor who examined the victim and a positive DNA report. In both these cases, DNA evidence was utilized as corroboratory evidence. Since DNA evidence can have dire consequences for the involved parties, all precautions should be taken to ensure its sanctity – procedural as well as substantive. In *Shakeel Nawaz v The State*,<sup>24</sup> the Court refused to rely on a DNA report and acquitted the accused because the test was not conducted by a laboratory notified by the government.

A positive DNA report may reduce the chances of acquittal, but a negative DNA report or non-matching of the profile does not guarantee acquittal, provided the other available evidence is convincing and reliable. This approach is reflective of treating DNA evidence as corroboratory

---

<sup>21</sup> Karen Norrgard ‘Forensics, DNA fingerprinting, and CODIS’ (2008) 1 (1) Nature Education

35 <<http://www.nature.com/scitable/topicpage/forensics-dna-fingerprinting-an...> accessed 10 December 2019.

<sup>22</sup> 2012 YLR 847 (FSC).

<sup>23</sup> 2013 MLD 1790 (Lah).

<sup>24</sup> PLD 2013 Pesh 78.

or secondary evidence. In *Khadim Hussain v The State*,<sup>25</sup> the Federal Shariat Court maintained the conviction of an accused by a trial court, though a DNA report on the swab samples taken from the victim did not match the profile of the accused. The victim was allegedly raped by the accused and her father lodged the report of this incident. The prosecution produced, as witnesses, the father, the victim, and the doctor who examined the victim and found her to have been subjected to rape. The evidence of the doctor was found to be insufficient in identifying the accused, but the Court regarded it as corroborating the statement of the victim, which was found to be truthful and confidence inspiring. Moreover, the accused had absconded for a reasonable period of time, lending credence to the prosecution's version of the events. In view of these circumstances, the Court concluded that the mere non-matching of the DNA profile of the accused was not sufficient for acquitting him.

In another case *Muhammad Ameen v The State*,<sup>26</sup> the Lahore High Court refused to grant bail to a petitioner despite a negative DNA report, relying on the view that DNA evidence was only a secondary evidence and not primary evidence. The petitioner/accused was an *imam*<sup>27</sup> of a mosque, who was alleged to have committed *Zina* with his student. The victim's father filed the complaint against the accused. While hearing the bail petition, the Court observed that no father would risk stigmatizing his daughter by falsely implicating someone.

When a DNA test could have been conducted but was not carried out due to negligence on the part of an investigating agency, or any other reason, the lapse has the potential to go against the prosecution and lead to the acquittal of an accused on the principle of the benefit of the doubt. In *The State v Abdul Khaliq*,<sup>28</sup> an appeal was filed against the acquittal of the accused. The victim was alleged to have been raped by four young offenders, though she did not have any marks or injury on her body. The prosecution collected semen from the victim's vagina but did not proceed to conduct DNA and group semen tests. The Court displayed its astonishment as to why the prosecution was prevented from conducting such tests and, at the same time, declined to accept the appeal against the acquittal. In *Muhammad Ashfaq v The State*,<sup>29</sup> a person accused of rape and murder was extended the benefit of the doubt and acquitted on the ground of non-procurement of DNA evidence by the relevant investigating agency for the purpose of determining whether the alleged intercourse with the deceased victim was committed only by the accused before causing her death. In both these cases, the lapse in conducting DNA tests was committed by investigating agencies, but the burden of the consequential injustice had to be borne by the victims. This is because the courts in the prevalent adversarial system of proof and evidence do not feel obliged to extend their jurisdiction for the procurement of missing pieces of evidence such as DNA evidence.

In another case, *Zohra Bibi v The State*,<sup>30</sup> a victim was allegedly detained for more than two months, and during this period, she was allegedly raped by three persons. The swabs taken from the victim's vagina were found to be stained with semen by the chemical examiner. Thereafter, the chemical examiner sent one swab for semen grouping, which the serologist

---

<sup>25</sup> 2011 PCrLJ 1443 (FSC).

<sup>26</sup> 2013 PCrLJ 733 (Lah).

<sup>27</sup> A person who leads prayers in a Muslim mosque.

<sup>28</sup> PLD 2011 SC 554.

<sup>29</sup> 2014 PCrLJ 1531 (Lah).

<sup>30</sup> 2013 PCrLJ 772 (FSC).

found to be insufficient for the said purpose. No DNA test was carried out for establishing the involvement of the accused persons. In these circumstances, the trial court acquitted the accused persons, and in appeal before the Federal Shariat Court, the decision was maintained. The Federal Shariat Court observed that no accused should be convicted in the case of *Zina* without semen grouping and a positive DNA report. This case appears to contradict *Khadim Hussain v The State*<sup>31</sup> discussed above. Both these cases were decided by the Federal Shariat Court, but entirely divergent positions were taken on the value of DNA evidence. This divergence is an outcome of Pakistani courts' perspective on DNA as corroboratory or secondary evidence.

As has been observed above, non-conducting of DNA test may become a ground for acquittal and such lapses of investigating agencies may also benefit an accused at the stage of bail. An accused may be granted bail in sexual offences if his DNA test has not been carried out by an investigating agency. In this situation, bail is extended to an accused under the legislatively coined ground of 'further inquiry' provided in Section 497 of the Code of Criminal Procedure 1898.<sup>32</sup> For instance, in *Parvaiz v The State*,<sup>33</sup> semen found on the vaginal swabs of a victim was not examined or tested for DNA. Instead of reprimanding the investigating agency, the case was treated as one of 'further inquiry' and bail was granted to the accused.

The courts' approach towards DNA as corroboratory or secondary evidence unfolds in another manner. The courts do not insist on collecting all sorts of evidence in one particular case. They receive evidence for proving a contentious issue, and if the issue is concluded as per the requisite standard without procuring DNA evidence, they may dispense with it. In other words, if the evidence available on the record of a case file establishes the guilt of an accused beyond a reasonable doubt, a court can decide such matter even without DNA evidence.

In *Rashid Minhas v Muhammad Fayyaz*,<sup>34</sup> a boy aged 13/14 years was subjected to sodomy by the accused. The victim reported the incident on the same day, disclosing all details. The report of the chemical examiner on the swab samples was positive and pointing towards the commission of the alleged offence. The medico-legal report also confirmed an act of penetration. The victim, who nominated the accused as sole culprit of the incident, was noticeably innocent and trustworthy throughout his examination-in-chief and cross-examination. The defense could not point out any flaw in his statement. On the other hand, the accused raised the pleas of *alibi* and enmity, but was unable to establish them. In this situation, the Court noted that the absence of semen grouping and a DNA test was not of any assistance to the accused. Consequently, the acquittal order of the trial court was converted into a conviction by the appellate court. In *Mazhar v The State*,<sup>35,36</sup> the non-conducting of a DNA test was held by the Federal Shariat Court not to benefit the person accused of rape because the case against him was proved beyond a reasonable doubt on the basis of convincing evidence,

---

<sup>31</sup> 2011 PCrLJ 1443 (FSC).

<sup>32</sup> The phrase 'further inquiry' is not defined anywhere conclusively and it allows the courts an ample space for using discretionary powers in bail petitions. It is interesting to observe that no draftsman of the Criminal Procedure Code would have contemplated that the terminology of 'further inquiry' would be used in this manner.

<sup>33</sup> 2014 PCrLJ 599 (Lah).

<sup>34</sup> 2012 PCrLJ 816 (FSC).

<sup>35</sup> 2014 PCrLJ 599 (Lah).

<sup>36</sup> 2012 YLR 652 (FSC).

which comprised of statements of the victim, her father, and a doctor along with the report of a chemical examiner.

The cases analysed show that DNA evidence is admissible in sexual offences as a relevant piece of evidence, but the evidentiary value it enjoys varies case-by-case. In most of the cases, it is treated as corroboratory or secondary evidence which alone cannot determine the fate of a case. The present legal framework vindicates this perspective. Despite some doubts about the absolute and unqualified credibility of DNA evidence, it can be regarded as primary evidence provided some standards, as to sample collection, its handling and testing, are set either through legislative measures or progressive legal interpretations. The questions that need to be addressed are: in what circumstances should DNA evidence be collected? How should it be preserved? In what manner can it be used in offences, and what should be its evidentiary value? If the criteria are laid down to answer these questions after a thorough debate and deliberation, there would be no difficulty in elevating DNA evidence to the status of primary evidence. The judiciary has not yet addressed these issues in a progressive manner, leaving them to be resolved by the legislature. Another major obstacle for proper reception of DNA evidence in the present judicial approach is the prevalent adversarial system. Although the complete shifting to an inquisitorial system just for the optimal utilization of DNA evidence is not advisable, calculated legislative measures can be implemented so that the lapses in utilization of DNA evidence can be penalized to bring a positive attitudinal shift in the approaches of the judiciary and the investigating agencies.

## **Conclusion**

Deoxyribonucleic acid, or DNA, is the fundamental building block for an individual's entire genetic makeup. DNA is a powerful tool for law enforcement investigations because each person's DNA is different from that of every other individual (except for identical twins). With few exceptions, courts throughout the nations have overwhelmingly admitted DNA test results, regardless of the admissibility standard used by the particular jurisdiction. The RFLP (Restriction Fragment Length Polymorphism) technique, along with other newly emerging DNA technologies, has already begun to revolutionize personal identification in criminal cases.

As the courts continue to recognize the reliability and probative value of DNA evidence, the public will benefit greatly from increased efficiency of criminal investigations and trials. At some point in the not too distant future, DNA evidence will be routinely admitted in criminal trials and will become as common as the use of fingerprints. Moreover, advances in technology will allow for unique identification of suspects based on their genetic profiles, putting to rest entirely many of the criticisms based on the limitations of the current technology.

The DNA has opened new vistas in forensic sciences. But whatever worth DNA evidence may promise, its use is dependent on the existing legal framework and scientific infrastructure of a country. The analysis above has exposed the fact that various legal hurdles undercut the unanimous reception of DNA evidence in all sorts of proceedings in Pakistan. On the one hand, DNA's admissibility is hindered in paternity disputes owing to a statutory conclusive presumption in the favour of legitimacy. In these cases, the courts prefer the collective interest of the community by favouring the legitimacy of an offspring over an individual's interest in unearthing the truth. According to prevalent judicial opinion, this approach is also in consonance with the Islamic dictates. This is why there is little prospect of making DNA evidence admissible in these cases. On the other hand, DNA evidence is admitted by the courts in sexual offences and is treated as a kind of expert evidence.

The utilization of DNA evidence in other offences is almost negligible in Pakistan. This approach of the judiciary is constructed partly by the present legal framework and partly by the lack of technical expertise and the requisite capacity in the crime scene analysis. If crime scenes of offences such as murder and other violent offences are examined properly, we may collect DNA evidence from those scenes, but due to a scarcity of personnel and scientific infrastructure, such valuable evidence is often lost.

DNA evidence is equated with expert evidence in the present legal framework in Pakistan which diminishes its value significantly. Due to their pre-settled notions informed and shaped from the perspective of expert evidence, the judicial officers are not willing to give more credence to DNA evidence than what they normally extend to other medical or expert evidence. As a consequence, DNA evidence has been marginalized as corroboratory or secondary evidence, and has been deprived of its potential as primary evidence. As long as DNA evidence is not freed from this reductionist perspective, it is difficult to benefit from its true potential. Thus a thorough re-evaluation of the present legal system is required in order to maximize the utilization of DNA evidence and its elevation to the status of primary evidence.

DNA evidence merits becoming primary evidence provided the possibilities of errors are eliminated by developing proper procedures at all levels including detection, collection, preservation and the manner in which DNA samples may be employed. Through well thought-out legislative measures, even within the present legal framework, an inquisitorial flavour could be added to the current judicial approach. The present approach of the courts of sitting aloof from the investigation process and dispensing justice by remaining unmoved irrespective of the non-collection of important pieces of evidence needs to be rectified. This rectification can be introduced by sensitizing the judicial officers to the significance of DNA evidence. The inculcation of a minimalist inquisitorial approach would help the courts in Pakistan to encourage the collection and the use of DNA evidence wherever circumstances allow, and any lapse committed in this regard by the investigating agencies would not go unnoticed and unpunished. This shift would prompt the investigating agencies to realize the significance of DNA evidence, which in turn would reduce the possibility of loss of a valuable source of evidence. Additionally, it is high time that Pakistan should begin to develop the requisite scientific infrastructure for the extraction and preservation of DNA evidence, failing which would result in miscarriage of justice and a lack of fair play.