

DNA Test Jurisprudence: An Analytical Study with Respect to Privacy and Paternity Cases and the Approaches Adopted by the Courts in India.

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Abstract:

In the evolving technological advancements DNA test technology played a significant role in justice delivery system in India. With the development of human relations one of the major Institutions that have emerged is in the form of marriage. In Matrimonial disputes major concerns are regarding paternity, infidelity, inheritance etc. DNA test has assisted courts in determining these disputes with precision and certainty. This research article traverse in to analyse the impact of DNA technology in Indian society and secondly how courts in India have adopted DNA technology in determining the paternity disputes with reference to existing legal provisions and the jurisprudence developed by courts in applying DNA test. With the major debacle surrounding the application on DNA analysis on individuals in paternity cases this research paper dives in to analyse these disputes and present some suggestions after examining the existing laws to balance the interests of the individuals and safeguarding the children from subjecting them to unnecessary lacerations from the society.

Keywords: DNA test, Paternity, Privacy, Jurisprudence, Genetic, Self-incrimination.

1. Introduction

DNA or deoxyribonucleic Acid is a natural database of the human genetically information. It is in the form of a strangled ladder which is present in the nucleus in the form of chromosomes in each cell of the human body. It is scientifically proven that half of DNA passes from parents to child and further this process continues. Credit to discover DNA goes to Rosalind Franklin, Francis Crick, Maurice Wilkins and James Watson and for this discovery they were awarded the noble prize. Except identical twins, every human DNA is unique and helpful in identifying people; this is why forensic scientists collect samples of hair, blood and saliva etc at crime scenes. Aside from encoding your physical body features, DNA can also answer some of your risk for certain medical conditions. For example, mutations in the *BRCA1* and *BRCA2* genes increase the risk of ovarian and breast cancer. However, your diet and daily habits also affect the risk. [1]

The relevance of DNA test in the legal system of India has been significantly increased in recent times. DNA evidence nowadays has gained similar potential as that of other existing relevant evidences which have attained strong relevance in court proceedings and therefore DNA evidence have a great impact on Indian judicial system. Significance of DNA evidence has been extended beyond court proceedings of criminal nature. Now DNA evidence has much relevance in

civil nature disputes too like in paternity, inheritance claims. With the span of time DNA test have been found most reliable and authentic information.

Due to the unmatched accuracy and credibility, DNA evidence has become a crucial instrument in delivering justice. With primary objective to spot perpetrators, DNA evidence proved to play an important part in exculpating people who have been convicted wrongfully. Many people who were fallaciously confined are being set at liberty as per the findings of DNA test, culminating the importance of this technology in confirming that justice is provided. Forensic evidence like DNA test has divulged the shortcomings of eyewitness testimonials and other kinds of available evidence, paramounting to the reassessment of cases and the rectification of justice mismanagement [2].

The first case in India where the jurisprudence around DNA test arose was *Kunhiraman V. Manoj*[3] , a case came with respect to paternity when a man of young age, after promising wedding, got in to physical relations with a woman of the same age who conceived baby later on. When the woman demanded maintenance after the child birth, the man opposed his duty or liability. However, subsequent to a court order for analysis of DNA testing, it was found that he was in true sense the biological father of the child born. Hence, court entertained the DNA test outcome as relevant evidence under Section 45 of the Indian Evidence Act of 1872. After that, the High Court at Kerala upheld the findings of the subordinate court iterating that the outcome of DNA analysis singly is enough and conclusive relevant evidence in setting up the alleged paternity [4].

DNA evidence stands out for its ability to identify individuals with exceptional precision—far exceeding that of eyewitness accounts or fingerprints. Because each person's genetic code is essentially unique (except for identical twins), DNA can conclusively connect a suspect to a crime scene and drastically reduce the risk of wrongful convictions. Although DNA profiling is increasingly used in paternity cases, problems remain such as testing accuracy, privacy issues, and inconsistent sample protocols. The Indian judiciary plays a vital role in ensuring justice by integrating scientific progress with legal reforms, safeguarding all parties' rights, and prioritizing the child's welfare.

2. Relevancy of the Forensic Evidence and their Legal Provisions

2.1. Bharatiya Sakshya Adhiniyam, 2023

Section 3 provides that Evidences may give with respect to crucial fact in question and the relevant correlated facts. The meaning of the words Fact in issue can be understood as affair over which disagreements exists or which are matter of probe.

Section 4 provides for those facts which though are not substantive fact in issue but somehow they are associated with the main fact in issue or other material fact that they appear to form persona of same transaction. Facts which prima facie don't appear to be a part of material question becomes relevant in case they are indirectly strongly associated to a fact in consideration which forms part of the same series are pertinent, whether those facts took place at alike place or time or a different place or time.

The BSA under section 7 provides that evidence should clearly explain facts pertinent to the issue at hand, support or counter suggested inferences, and furnish to the understanding of relevant facts. DNA profiling serves as strongly reliable evidence for establishing personal identity beyond doubt, making it a linchpin in legal proceedings. [5]. *FAKRUDDIN V. STATE OF MP* [6] Supreme court delivered a judgment regarding the admissibility of a witness's opinion, stating that when a person with specialized knowledge provides expert evidence, such testimony is considered admissible, particularly in cases where the point of dispute is of a complex or technical nature and where individuals lacking the requisite skills or expertise would not be capable to form a reliable or faultless judgment on their own.

Section 39 provides for circumstantial need for expert opinion as when the court has to create an opinion with respect to science, foreign law, art or any other field or with respect to finger impressions or handwriting, it can take assistance of handwriting or fingerprints experts. One of the greatest examples nowadays can be paternity test through DNA testing. It also helps to resolve disputes relating to marriage, birth and succession. *State of H.P. v. Jailal*[7] supreme court significantly deliberated. It is the duty of the expert witness to assist the court by setting forth the relevant scientific principles and standards necessary for evaluating the accuracy of a given conclusion. This enables the judge to exercise independent judicial judgment by applying those standards to the facts established through the evidence on record. *Santosh Kumar Singh v. State through C.B.I* [8] in adjudicating upon the viability of DNA evidence, it was held that a judge cannot substitute their own opinion for that of a qualified expert, particularly in matters involving the scientific complexities of DNA profiling. Accordingly, the Court recognised the DNA report as scientifically reliable and affirmed that DNA profiling constitutes an exact science. *Mukesh and Another v. State (NCT of Delhi) and Others*[9] It was observed that, akin to several other jurisdictions, India has increasingly come to rely upon DNA evidence in the adjudication of criminal matters. Significantly, DNA profiling has now been incorporated into the statutory framework through the enactment of Sections 52 and 184 of the *Bhartiya Nagrarik Suraksha Adhiniyam 2023*, which specifically pertain to the medical examination of accused persons and victims in cases involving sexual offences, including rape.

2.2. *Bharatiya Nagarik Suraksha Sanhita, 2023*

Section 51 authorises police officer to make necessary examination of the accused through the assistance of medical practitioner. The explanation attached to this section discuss about the word examination shall include examination of semen swabs(in case of sexual offences), blood, blood stains , hair samples, sputum, sweat and finger nail clippings conducted with the help of DNA testing any other test which registered medical practitioner deems relevant.

Section 52 when a rape accused is taken into custody and there exists reliable grounds to believe that there is requirement to assess the health of that person with respect to the offense committed by him then there is a legal provision for registered medical professional to performing the requisite examination. The examining medical professional shall, without undue delay, conduct the medical examination and prepare a comprehensive report detailing the name, address, and age of the accused, any open injuries observed, materials gathered for the purpose of DNA profiling, and any other pertinent observations. The said report shall be submitted to the offer investigating concerned, which shall, in turn, send it to the Magistrate as part of the requisite procedural documentation.

State of Haryana v. Krishana Kumar Malik [10] With the incorporation of the provisions under *Bhartiya Nagrarik Suraksha Adhiniyam 2023*, section 52, it is now obligatory for the prosecution to subject the accused to a DNA test in such circumstances, to substantiate its case against the defendant. It is pertinent to note that the grant of bail does not preclude the conduct of a medical examination under Sections 51 and 52 of the BNSS. This is because the initial arrest of the accused under these provisions invokes their applicability. Consequently, even after release on bail, the accused remains legally bound to cooperate with the medical examination as required under the law.

Section 184 specifically deals with important contour of medical examination and gathering of genetic materials from victims of rape. This provision shows the intricate nature and profundity of sexual offences pointing up the demand of the diligent examination. This examination held guarantee the extensive information with respect to the psychological and physical state of the victim with his/her consent under the direct supervision of licensed medical professional employed in government hospital and conserved and regulated with regional authorities assistance within twenty four hours of first receiving of the reporting of the commission of offence.

Section 326 provides absolute allegiance in matters of DNA depositions acceptance and properly assuring reliability and veracity of the procedure of DNA analysis. If government scientific expert is asked to submit his report on certain material provided to him during legal proceedings then his report may be entertained as a evidence by court in any court proceedings. "Government scientific expert" includes government chemical examiner, Forensic Science expert, Finger Print etc.

2.3. The Criminal Procedure (Identification) Act, 2022

Section 3 of the act obligates a convicted person to allow the police officials to take measurements if the person is convicted for any offence which is punishable under any other law for the being in force, directed to give security for the good behaviour and maintain peace or arrested or detained in any existing law. Measurement defined in act includes impressions of finger prints, palm prints, foot prints, photographs, eyes scan and other samples and their examination, behavioural structure handwriting and signature specimen as mentioned in section 51 and 52 of BNSS 2023.

Section 4 of the act vests upon the National Crime Records Bureau the duty to i) collecting, storing or preservation of measurements, ii) store, share, disseminating, destructing and disposal of these records. The data collected shall be stored for up to a period of seventy five years from the collection date. If the person is released by the court without trial or the court acquit or discharge him then all his records collected shall be destroyed.

Section 5 gives magistrate power to make an order directing the person to allow the collection of his/her biological data for the investigation or proceeding purpose. Section 6 provides for a situation if the person order to allow collection of his biological samole resists then he may be compelled and the resistance will be deemed to be an offence as per section 221 of the Bharatiya Nyaya Sanhita, 2023.

3. DNA Test Jurisprudence developed by the Courts in India

3.1. DNA test, the right to privacy and paternity concerns

The advent of DNA technology has raised substantial concerns with respect to individual's legal rights such as Right against self incrimination and the Right to privacy and due to these concerns the courts are cautious in entertaining evidences relying upon DNA technology. After the judgement of Puttaswamy case the Hon'ble supreme court has clearly recognised right to privacy as a fundamental right of an individual enshrined under Article 21 which provides for right to life and personal liberty and Article 20(3) grants the right against self-incrimination, ensuring that an accused individual in a criminal trial cannot be compelled to provide evidence or testimony that may implicate themselves. Hon'ble Supreme Court through their various decisions has cautioned about right to life and personal liberty has certain reasonable restrictions and is not an absolute right.

It is expressly mentioned in the judgment that the privacy is to be an essential component of Part III of the Indian Constitution, which lays down the fundamental rights of the citizens. The Supreme Court also declared that the state must cautiously balance the individual privacy and the legitimate aim, at any cost as fundamental rights cannot be given or taken away by law, and all laws and acts must be obeyed as per the constitution. The Court also declared that the privacy right is not declared an absolute right and any intrusion of privacy by the state or non-state actor must fulfil the triple test i.e. a) Legitimate Aim, b) Proportionality and c) Legality. [11]

In the case of Rohit Shekhar v. Narayan Dutta Tiwari [12] supreme court while deciding the case of paternity allowed the DNA test of the defendant ND Tiwari on the condition of not disclosing the result of the report in open court as it was also mandatory to ascertain the petitioners paternity. ABC v. XYZ [13] Punjab & Haryana High Court ruled that the fundamental right of children to know his parentage overrides the fundamental right to privacy of the parent. In Kamti

Devi V. Poshi Ram [14] held that to ascertain paternity DNA test results can be relied upon the condition being that the results must fulfil some eligibility including the consent must be voluntary and the strict adherence to procedural safeguarding.

Hon'ble Supreme Court had laid down certain guidelines with respect to the permissibility of blood tests within India in the landmark judgement of Gautam Kundu V. State of West Bengal [15] as follows:

- i) It must not become a practice for courts to order blood tests in every case.
- ii) When such an application is made for the purpose of inquiry, the blood test request cannot be made final,
- iii) For the purpose of consent to make blood test there must exist a strong prima facie case such that the husband must establish "no access" to do away with the presumption under section 112 of Indian evidence act (now section 109 of Bharatiya Sakshya Adhiniyam, 2023),
- iv) The court must before granting the permission for blood test must be clued up of the further repercussions of it.
- v) There will be compulsion on any person to give consent for the test.

In the case of K S Puttaswamy V. Union of India 2019 hon'ble Supreme Court recognised the privacy right as a fundamental right enshrined under Article 21 of the Constitution of India. The court further clarified that if one party demands forensic test or DNA test then, it will solely depend on the courts discretion whether to allow permission or not keeping in mind the interest of the children.

The DNA paternity jurisprudence in India was given a formal recognition and that can be traced by observing the rulings with respect to two case laws. In the case of Nandlal Wasudev Badwaik v. Lata Nandlal Badwaik and another [16] stressed upon the DNA test and Section 112 of Indian evidence act as:

- i) The presumption raised in section 112 of conclusive proof is rebuttable
- ii) When the truth is discovered only then the justice is deemed to be served. Court must be furnished with the best available science and must not rely upon presumptions until and unless the science is not available.
- iii) Whenever there arises a discord between the conclusive proof provided by the law in force and a proof based on scientific technological advancement legitimatised worldwide, the latter must prevail over the other.

Dipanwita Roy v Ronobroto Roy [17] SC held that DNA test is an opportunity for both i.e Husband or Wife. Husband can use it to establish his assertion of infidelity and Wife can use it to rebut these assertions of husband and to proof that she had not been unfaithful or disloyal.

Aparna Ajinkya Firodia v. Ajinkya Arun Firodia(2025) as there was a routine of instituting of the cases regarding paternity test on the child, SC to prevent child from these trauma issued certain guidelines as to in what circumstances only the child can be subjected to DNA testing:

- a) To protect children from routine targets it shall be used as the last resort to prove the paternity of the child. If there are other means available of ascertaining the paternity then DNA test order shall not be issue as first recourse rather those other existing recourses must be opted.
- b) A child born when the marriage was subsisting may only be subjected for DNA test If there exists a prima facie evidence to oust the presumption under section 112 of the Indian Evidence Act. But if there is no plea of non-access raised then a DNA test cannot be directed just to rebut the presumption.

- c) Where paternity of the children is not in consideration but it is just collateral to the proceeding then it will not be considered a justified reason to order such a DNA test.
- d) Just because one of the parties to the dispute has disputed over the fact of the paternity so, it does not mean that court should direct DNA test or such other test to resolve the dispute. Only if the parties fail to establish the paternity through evidences or it is not possible to resolve the issue without DNA test then only, court can direct DNA test. Only in cases where DNA test becomes vital there only DNA test can be ordered.
- e) Before ordering the DNA test in case to prove infidelity courts must know what can be the consequences of it on the child related to inheritance, succession etc.

Court further held, although the child's privacy is not considered to be at par with that of adult but the child rights convention admits that children like adults have the control to maintain their personal limitations and control over the medium through which they shape their personality. Article 8 enshrines the identity preservation rights of the children.

Ivan Rathinam v. Milan Joseph [18] SC in clear terms differentiated between legitimacy and paternity as legitimate child i.e. a child born during the marriage to both parents it's not necessary that the child born shall necessarily be the biological child of the two persons in the marriage tie. Court further said the child born during subsistence of marriage to married couple makes a strong presumption of legitimacy of the child and illegitimacy can be established by proving non access. There must exist balancing of interests while adjudicating on paternity matters so that no party shall feel injustice to them. If there is a dispute related to paternity and legitimacy between parents of the child then family court shall have jurisdiction over the matter related to DNA test but if the matter is related to adultery and the allegations are made against a person outside of marriage then the Munsiff courts shall have jurisdiction.

Supreme Court through its various judgements have mentioned that just because the two persons have developed personal issues during the subsistence of their marriage and one of the party inflict the charges of infidelity then it doesn't always make it ground to subject their child to DNA test as it will have a permanent trauma impression on the child and will prove to be a grave violation of his privacy rights.

Rape cases: *Kamalananda and Others V. State of Tamil Nadu* 2005[19] in this case a spiritual leader repeatedly for several months raped his disciple and she became pregnant. The court to confirm the paternity of the child ordered DNA test and found that the swami was the biological father of the child. Here DNA report played an important role in determining the paternity and therefore swami was convicted for committing rape. *Geeta Daha V. NCT of Delhi* [20] Supreme Court through its division bench ordered that DNA may be permitted on the embryo of the victims of the rape.

Murder cases: *Rajiv Gandhi Bomb Blast case* [21] in this case DNA test of the accused who was a professional killer was ordered by the court which later on matched with her relatives. This confirmed the association of the accused in the murder. *Dharam Deo Yadav v. State of Uttar Pradesh* [22] Supreme Court ruled that with the passage of time DNA cannot be altered. In the present case DNA test proved to have played an important part in identifying the body of the deceased hence, it can be confidently said that in cases of homicide DNA test provides reliability over other existing methods.

4. Conclusion

Supreme court of India and various others courts in India have from time to time passed judgements with respect to DNA test focusing on balancing of the interests of the parties to the dispute. Supreme courts had made it clear those scientific technologies wherever possible must be used to determine the disputes like DNA test but with the proper precautions and care. It must not be made a regular practice to order DNA test in every case related to paternity, legitimacy, rape cases etc

otherwise it will invite a tide of DNA test demands in the courts which will hamper the legal proceeding and unnecessary delay. DNA testing jurisprudence in India is applied by the courts in with proper measures and it is observed from time to time the precautionary measures taken the by courts in India to shape the DNA test jurisprudence in India. It must not be ordered sparingly but there must exist an appropriate need in a case to order a DNA test. One of the major views of the Courts is that the legislature must address the new form of intricacies in family law and must frame legislation specifically for resolving the same. Although an attempt to frame legislation particularly for the regulation of DNA test and suggesting offences and penalties to address the violations have been made in the past known commonly as DNA profiling bill but unfortunately it was not passed by the Parliament. In present scenario Courts in India heavily rely on the scientific advancement results but there is a strong need to frame legislation for the same. To live a dignified life and protection of privacy rights it is in the public interest to protect individuals to frame a proper legislation.

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