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Medical expertise in legal proceedings: Impacts to impediments

Kamal Sharma
Research Scholar, Department of Law, Himachal Pradesh University, Shimla, Himachal Pradesh, India

Abstract
The integration of medical expertise into legal proceedings has revolutionized the pursuit of justice, offering profound insights into complex cases. This paper scrutinizes the consequential impacts and the formidable impediments encountered in the Indian criminal justice system. It elucidates the transformative influence of medical evidence in shaping legal outcomes, while also dissecting the multifaceted challenges that hinder its efficacy. The research reveals that despite the critical role of medical professionals in forensic analysis, their contributions are often stymied by systemic issues such as flawed evidence collection, preservation, and presentation protocols. The paper advocates for a paradigm shift through legislative reforms, enhanced training, and the adoption of cutting-edge technologies to surmount these obstacles. By fortifying the symbiosis between medical science and jurisprudence, we can aspire to a future where justice is served with unwavering accuracy and integrity.

Keywords: Legal proceedings, impediments, presentation

Introduction

In the intricate web of the legal system, where truth seeks manifestation and justice demands resolution, the influence of medical expertise emerges as a guiding beacon. It is a field where the precision of science meets the ambiguity of law, where the delicate balance between fact and interpretation shapes the outcomes of legal proceedings. As Sir William Withey Gull, a prominent English physician and one of the physicians to Queen Victoria, aptly remarked, "Justice without the aid of medical expertise is blind", emphasizing the pivotal role of medical knowledge in ensuring fair and informed decisions within the legal system. It is not unprecedented to say that the collaboration between medicine and law is not merely incidental but foundational, as it navigates the complexities of human health, injury, and mortality within the framework of legal scrutiny.

Against the backdrop of the Indian criminal justice system, this study embarks on a nuanced exploration of the symbiotic relationship between medical expertise and legal proceedings. From the examination table to the courtroom, medical professionals wield their expertise as a powerful tool in unravelling the mysteries of crime and decrypting the intricacies of bodily evidence. Whether it be forensic pathologists determining the cause of death or psychiatrists assessing the mental state of defendants, the contributions of medical experts are integral to the pursuit of truth and the administration of justice.

However, this partnership between medicine and law is not without its challenges. There are many loopholes in evidence collection and evidence handling procedures, which futile the advancement of medical science and at worse lead the medical expert to conclude a wrong finding.

This research paper endeavours to examine the role and influence of medical expertise within the criminal justice system, focusing on its impacts and challenges. To achieve the intended purpose our present research methodology is doctrinal in nature. The analytical and descriptive methods of research have been employed to accomplish the work in hand. The relevant information will be collected from primary as well as secondary sources. The primary sources are acts, statutes, reports, regulations, case laws etc and secondary source are research papers, articles, journals etc. The data collected from primary as well as from secondary sources, has been systematically analysed in the light of objective of research.

Historical genesis and evolution of medical expertise in legal contexts

Tracing the Historical Genesis of medical expertise in India, we find its roots deeply embedded in the ancient Vedic literature, particularly Ayurveda, as elucidated in seminal texts like the *Charaka Samhita* and *Sushruta Samhita*. Beyond these, the *Puranas* and *Upanishads* offer scattered yet significant references to medicinal knowledge. However, it is *Kautilya's Arthashastra* that emerges as a pioneering work, providing one of the earliest known descriptions of forensic medicine, thereby laying the groundwork for this discipline within the Indian context.

The evolution of medical expertise took a transformative turn during the colonial era, spanning from the 17th to the 20th century. This period witnessed the introduction of British judicial systems and modern medical practices to Indian society. The establishment of hospitals and legal protocols, alongside legislative frameworks such as the Indian Penal Code, 1860, and the Criminal Procedure Code, 1861, laid a robust foundation for the field of medical jurisprudence in the subcontinent.

In the post-independence era, India made significant strides in advancing forensic medicine. This progress is evidenced by the establishment of academic departments, professional organizations, and specialized institutes across the nation. Notably, the Indian Medical Council, established in 1933, began to regulate medical education and practice. The Medico-Legal Institute at Gandhi Medical College, Bhopal, founded in 1977 under the directorship of Dr. Heeresh Chandra, became a beacon for enhancing medico-legal services. Additionally, the Indian Academy of Forensic Medicine (1972) and the Indian Academy of Forensic Sciences (1961) have played pivotal roles in fostering professional networking and research collaboration in forensic medicine. The establishment of the Institute of

Criminology and Forensic Sciences in New Delhi in 1971, operating under the Ministry of Home Affairs, marked a significant effort to bolster medico-legal infrastructure and expertise. It provided training, conducted research, and fostered collaborations in criminology and forensic science. These developments, coupled with the incorporation of emerging fields like forensic odontology and digital forensics, reflect India's ongoing commitment to addressing the evolving challenges in criminal investigations and justice administration.

The colonial era, spanning from the 17th to the 20th century, brought profound changes to Indian society, including the introduction of British judicial systems and modern medical practices. The establishment of hospitals and legal protocols, coupled with legislative frameworks like the Indian Penal Code, 1860 and the Criminal Procedure Code, 1861 laid the foundation for medical jurisprudence in the subcontinent.

Constitutional and Legislative Provisions Governing Medical Expertise in Judicial Processes

Within the framework of medical jurisprudence, the Indian Constitution establishes the foundational legal principles that govern the integration of medical expertise in legal proceedings. Legislative provisions delineate the operational facets of medical evidence and forensic practices, while the Constitution safeguards the fundamental rights and principles that guide the application of these practices in the administration of justice. The Constitution of India, through Article 14 ensures that all individuals are treated equally before the law, which is crucial when considering the role of medical expertise in legal proceedings. It implies that in the administration of justice, especially in cases involving medical evidence or expert testimony, every individual should be afforded the same legal treatment without any discrimination. This article upholds the principle that medical professionals, as well as the evidence they provide, must be evaluated on an equal basis, ensuring that no bias or prejudice influences judicial decisions. Moreover, Article 20(3) provides protection against self-incrimination. It states that no person accused of an offense shall be compelled to be a witness against themselves, ensuring the integrity of legal proceedings by safeguarding the rights of individuals to a fair trial. This article is crucial in cases involving medical expertise, as it prevents the forced admission of evidence through medical procedures that could self-incriminate the accused. Article 21 proclaims, 'No person shall be deprived of his life or personal liberty except according to the procedure established by law.' This article is crucial in the context of "Medical Expertise in Legal Proceedings: Impact and Challenges" as it emphasizes the importance of lawful procedures in any action that affects an individual's life or personal freedom, including those involving medical evidence or intervention.

Reflecting the dynamic nature of legal and medical integration, the Bhartiya Nagarik Suraksha Sanhita, 2023 (BNSS), introduces pivotal amendments to enhance the evidentiary value of medical expertise. Section 51 of the Act, empowers a registered medical practitioner to examine an arrested person if the examination is believed to yield evidence of the offense, employing reasonable force if necessary. This examination can now be conducted at the request of any police officer. The BNSS also adapts to contemporary advancements by integrating changes related to the use of forensic science in crime investigations. As per Section 349, fingerprints and voice samples can now be collected, in contrast to the previous code, which only allowed for specimen signatures or handwriting samples. Previously, only the central government could designate scientific experts for this purpose, but now state governments may also do so, as per the amended Section 329(4) (g) of the BNSS. Additionally, Section 176 mandates that when the police are informed of a crime punishable by more than seven years, a forensic team must visit the scene to collect samples and conduct videography of the process. Furthermore, Section 176(1) states that police statements during an investigation may be recorded electronically, including by phone. Moreover, FIRs can now be legally registered via electronic communication, as stipulated by the addition of clause (ii) to Section 173(1). More importantly, Sections 326-333 establish a framework for the admissibility of evidence and the examination of expert witnesses in legal proceedings concerning medical and forensic matters. Sections 328-329 specifically address the admissibility of reports from officers of Mints, Note Printing Presses, Security Printing Presses, Forensic Departments, and Government scientific experts, such as Chemical Examiners and Directors of Forensic Science Laboratories. These reports, when properly submitted and designated by the Central Government, are admissible as evidence in legal proceedings. Section 329 also permits the summoning and examination of these experts in court; however, Section 330 clarifies that no expert shall be summoned unless their report is contested by any party involved in the trial. Lastly, Section 332 allows for the submission of affidavits as evidence for formal matters, such as medical reports, which can be sworn before authorized officials. These legislative updates signify a progressive shift towards a more inclusive and technologically adept legal system, ensuring that medical jurisprudence remains a vital and evolving component of judicial processes.

Impacts to Impediments

The interplay of medical expertise within legal proceedings is a multifaceted domain, marked by significant impacts and notable impediments. This section delves into the profound influence that medical professionals exert on judicial outcomes, as well as the challenges they face in the legal landscape. From the pivotal role of forensic evidence in shaping case verdicts to the ethical and procedural hurdles encountered, the ensuing discourse explores the intricate balance between the pursuit of justice and the complexities of medical jurisprudence.

In the cases where identification is necessary, to deliver a just decision, role of an expert become crucial. Presently, DNA profiling is frequently used one. Because DNA profiles are distinct for each individual, when comparing the sufficient number of DNA patterns in two unrelated individuals. In India, many cases (e.g. AIR 2012 DELHI 151, (2014) 4 SCC 292; (2014) 4 SCC 292; AIR 2017 SC 2161) have been solved with the help of DNA fingerprinting, including paternity disputes. Even Dhanu and Sivarasan, the assassins of the Lt. Rajiv Gandhi (former Prime minister of India), were identified by the DNA profiles. But it is also important to keep in mind that hair, skin etc., which can easily provide DNA profiles, can be there on crime scene without any direct contact. For

instance, DNA can in some instances be transferred from person X to person Y and then onto object 1 (secondary transfer) or from person X to object 1 to person Y and then onto object 2 (tertiary transfer). In both cases, traces of person X's DNA might be found on an object even when they have never been in direct contact with that object. It is also perfectly possible that the DNA of person Y will not be present on an object with which they have had direct contact. In some cases, if not always, it will be possible to make a comparative assessment between alternative explanations for the presence of the DNA. Beside DNA profiling, tongue print or lingual impression, is also a reliable biometric authentication method, which is emerging as a novel tool that can be used in forensics. The distinctiveness of the tongue print is that no two tongues are the same, and the tongue of identical twins also does not resemble each other. Biggest advantage with tongue is that it is well protected from the external environment, and so it is not affected by external factors. The Illinois Court of Appeal has in *People v Davis No 2-97-0725*, in a decision rendered on 12 May 1999 accepted the lip print identification as acceptable within the forensic science community as a means of identification of an individual. However till today, lip print is not introduced in India as a method of identification. In Selvi v. State of Karnataka, Supreme Court of India held that Sec.73 of the Evidence Act empowers a court to direct any person including an accused person to allow his finger impressions to be taken. It has also been held that giving a thumb impression or impressions of foot or palm or fingers or specimen writing or showing parts of the body etc. by way of identification, are not included in the expression 'to be a witness' and does not offend way Article 20(3) of the Constitution of India, 1950. From this case recognition for medical evidences in criminal courts achieve its new height.

In the cases of sexual offences, it is the medical officer who can provide evidence of recent sexual activities or injuries in or around private parts or bite marks on any part of the body. Here the role of medical experts extends beyond treatment to include the collection of evidence. Alongwith such evidences, two marks of identification such as moles, scars, tattoos etc., preferably from the exposed part of the body, MUST be documented. While describing identification mark emphasis should be on size, site, surface, shape, colour, and fixity to underlying structures. It is pertinent to mention here that status of hymen is irrelevant because the hymen can be torn due to several reasons such as cycling, riding or masturbation among other things. An intact hymen neither prove nor rule out sexual intercourse but fresh tears or bleeding are relevant to the episode of assault, which must be documented. However, if a woman reports within 96 Hours (4 days) of the assault, all evidence including swabs must be collected because likelihood of finding evidence after 72 hours (3 days) is greatly reduced, specially spermatozoa can be identified only for 72 hours after assault. Evidence on the outside body and on materials can be collected even after 96 hours. All these evidence after due care and proper handling collected and sent to the forensic laboratories for examination by experts. On the basis of such evidences two types of opinions are framed by the experts. First is the provisional opinion, which is to be drafted immediately after the examination of the survivor. And secondly the final opinion (with reasoning) which is to be drafted after forensic examination. According to Dr Jaising P Modi, *"…it should be kept in mind that normal examination findings neither refute nor confirm forceful sexual intercourse… other/circumstantial evidence may please be taken into consideration. Absence of injuries or negative laboratory results may be due to (i) inability of the survivor to offer resistance to the assailant because of intoxication or threats; (ii) delay in reporting the examination; (iii) activities such as urinating, washing, bathing, changing clothes etc. which may lead to loss of evidence; (iv) use of condom/vasectomy or disease of the vas."* All the evidence need to be packed and sealed properly. The responsibility for this lies with the examining doctor. If we carefully look into the procedure, we can say biggest impediment is not the lack of scientific advancement for the examination but the proper chain of custody. Initially it is the duty of the person, collecting the evidence, to properly collect evidences without causing any harm. Then it is the duty of hospital to designate certain staff responsible for handling evidence and no one other than these persons must have access to the samples. This is done to prevent mishandling and tempering. If a foolproof chain of custody is not maintained, the evidence can be rendered inadmissible in a court of law. According to Jaising P Modi, collecting and preserving biological material properly is crucial for effective laboratory investigations, but it's often overlooked. This can lead to problems and wasted time and resources of medical experts. To avoid impediments at the stage of bio-evidence collection he laid down certain guidelines, as well.

Further, the role of medical professionals in cases involving death and its legal implications is also multifaceted, encompassing ethical considerations, evidence collection, and the intricacies of medico-legal guidelines. The definition of death according to Black's Law Dictionary is the cessation of life; the ceasing to exist. In other words, it is a total stoppage of circulation of the blood and consequent thereupon, a cessation of the animal and vital functions. It may be further divided into two parts: somatic death and molecular death. Distinguishing between somatic (systemic) and molecular (cellular) death is essential for understanding the process of dying and its legal ramifications. Somatic death refers to the loss of brain, heart, and lung functions, while molecular death involves the cessation of cellular activity. In India, rapid decomposition and external factors can complicate the identification of deceased individuals, marking a juncture where the role of medical experts becomes crucial. To establish the factum, time, and cause of death (natural or unnatural) and identity of the deceased, medical experts can provide clarity through the performance of autopsies and other relevant examinations. To verify death there are certain test which are relied upon by the medical experts such as Magnus's test, Diaphanous Test, Icard's Test, ECG Tracing etc. After confirmation of *corpus delicti* and cause of death, a death certificate is issued in the manner internationally accepted. A medico-legal post-mortem examination should never be undertaken unless there is a written order from a police officer or the district magistrate. Before commencing the examination, the medical officer should carefully read the police report on the appearance and situation of the body when it was first discovered and the cause of death as ascertained. This precaution is necessary, especially in the case of a decomposed body, so as to enable him to particularly examine the organ or the part of the body most suspected

and which is likely to give clues as to the cause of death. The post-mortem should also be as thorough and complete. Ordinarily, a dead body is sent to the morgue, but in exceptional cases, the medical officer may be taken to visit the scene of death where a dead body may be lying. In that case, he should note the place and nature of the soil where the dead body was found, its position, especially as regards the hands and feet, and the state of the clothes, if any. He should also note, in the case of death from violence, the position of the body with reference to surrounding objects such as sharp stones and the like, on contact with which the alleged injury was caused, and also whether any blood stains were visible on such an object or anywhere near the corpse. and whether any weapons were lying near it. The ground in the vicinity should be carefully searched for the presence of footprints and evidence of any struggle. In the case of death suspected of poisoning, he should note whether any material such as vomited matter was present in the neighborhood of the body. Much valuable evidence can be obtained by proper investigation at the scene of crime. According to Locard's Principle, *"whenever two persons or objects come in contact with each other, they leave evidence of transference of material from each other in the form of fingerprints, fibers, dust, hair, avulsed nails, etc. and provide irrefutable evidence for the scientific investigator at the very scene of crime."* Hence, an accurate sketch of the scene, photographs and selective collection of material and the initial recording of the body temperature at regular intervals, the extent of *rigour mortis*, hypostasis, Presence of possible weapons, ligature, blood stains, Evidence of struggle, medicine bottles, ova and maggots, collection of saliva or semen swabs by a forensic pathologist is of great help. It is better to protect different parts of the body in plastic bags or pads to prevent loss of contact tracers, while the body is being removed to a mortuary.

The medical expert must establish the identity of the deceased and he must record the means of identification. Positive identification is absolutely necessary. The body should be identified by at least one relative or accompanying person and the police official present, signatures should be obtained on the post-mortem original report to this effect before starting the autopsy. All the details of the post-mortem, as observed by the medical officer, should be carefully entered by him on the spot in the post-mortem report, or in a notebook, which can be used as evidence in a legal inquiry. He should not mind the report getting soiled if only it is to assure that it was prepared at the time when "facts were still fresh in the mind". If there is an assistant, the best plan is to dictate to him as the examination proceeds step by step, and then to read, verify and attest the report. In the absence of an assistant, a tape recorder may be useful. It is not safe to trust memory and to write the report later after completing the examination. There must be no discrepancy in the notes and the report to be sent to court and must tally with each other. Nothing should be erased, and all alterations should be initiated. In some mortuaries, there are also boards with markers to help jot down the observations during the progress of an autopsy. Opinions expressed on the death certificate are not irrevocable, nor are they protected from change by court decisions.

Beside evidence collection and handling impediments, night post-mortem is also an impediment, which may sometime mislead the court to arrive at an unjust conclusion. Sometimes, it may mislead the court to arrive at unjust conclusions. This could be done either to help the accused escape from the grip of the law or for some other reason. Although night autopsies are allowed in some states like Kerala, Maharashtra, Karnataka, and Gujarat, they are still not preferable. The need to determine the time and cause of death, as well as the stages of wound healing, is crucial in medico-legal cases. Accurate colour matching is believed to be better in natural daylight compared to artificial light. India's diverse population, with many dark-complexioned individuals, makes it challenging to identify bruises and contusions in artificial light. While some countries perform night autopsies, they often have prolonged twilight, which mimics natural light. Performing autopsies at night can lead to confusion in identifying bodies and pose law and order issues, especially in cases involving gang-related deaths.

Conclusion and Suggestion

The connection between medical expertise and legal proceedings is crucial for ensuring justice. Medical professionals play a pivotal role in providing evidence, interpreting complex medical data, and assisting courts in decision-making. Conversely, legal frameworks rely on medical insights to establish guilt or innocence. This synergy necessitates ongoing collaboration, training, and mutual understanding. Despite the inherent value of medical expertise, obstacles persist. The collection, preservation, and presentation of medical evidence encounter hurdles. As highlighted by the Supreme Court of India in *State of Rajasthan v. Kashi Ram*, maintaining a meticulous log of evidence transfer from one custodian to another is essential. Inadequate training of legal professionals in medical nuances often leads to misinterpretations. Additionally, the dynamic nature of medical science demands constant updates, posing challenges for legal practitioners. This research paper emphasizes the need for specialized training programs, interdisciplinary workshops, and robust protocols for handling medical evidence. Advancements in medical technology offer promising solutions. Radiological imaging, DNA profiling, and telemedicine enhance evidence quality. However, their integration into legal proceedings remains uneven. Standardization and awareness are essential. Courts must adapt to novel evidence formats, ensuring fairness and transparency. Moreover, non-mentioning of verbal threats, if any, conveyed to the victim by examining doctors is not a good practice. An examining doctor must inquire about such threats and document them in the survivor's words. This research paper advocates for the establishment of specialized medical courts or panels to streamline the process. Moreover, legislative reforms are pivotal. Our findings highlight the impact of legal amendments on the evidentiary value of medical opinions. Clear guidelines for admissibility, expert witness qualifications, and cross-examination protocols are crucial. By aligning legal statutes with medical advancements, we can enhance the credibility of medical testimony. The judiciary must actively engage with medical bodies to ensure congruence.

Looking ahead, collaborative efforts are paramount. Research, policy, and practice must converge. Interdisciplinary dialogues, research grants, and joint conferences can foster innovation. Holistic justice necessitates not only accurate medical assessments but also empathy, ethics, and cultural sensitivity. This research paper calls for a holistic approach—one that recognizes the human

element within the legal-medical interface. In summary, this research paper underscores the pivotal role of medical expertise in legal proceedings. By addressing impediments, embracing technology, and advocating for legislative reforms, we pave the way for a more equitable and informed legal system. The journey toward seamless integration continues, guided by the shared pursuit of justice.

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