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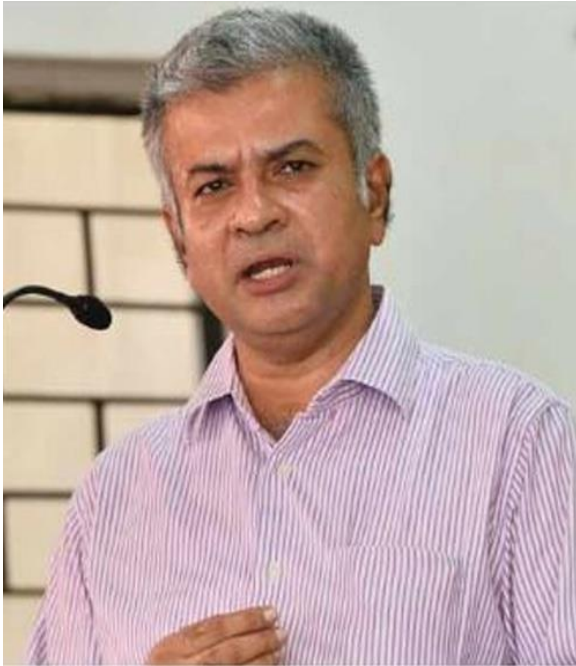
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E.MBA, LL.M, Ph.D, PGDSAPM

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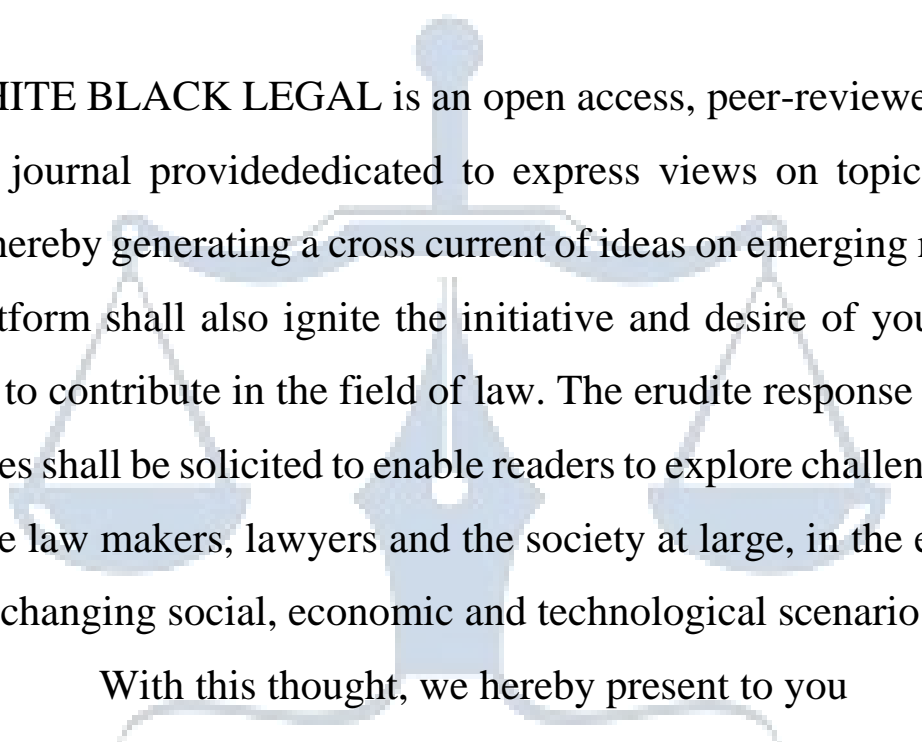


Subhrajit Chanda

BBA. LL.B. (Hons.) (Amity University, Rajasthan); LL. M. (UPES, Dehradun) (Nottingham Trent University, UK); Ph.D. Candidate (G.D. Goenka University)

Subhrajit did his LL.M. in Sports Law, from Nottingham Trent University of United Kingdoms, with international scholarship provided by university; he has also completed another LL.M. in Energy Law from University of Petroleum and Energy Studies, India. He did his B.B.A.LL.B. (Hons.) focussing on International Trade Law.

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WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal providededicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

W H I T E B L A C K
L E G A L

A STUDY ON THE ROLE OF FORENSIC MEDICINE AS EVIDENCE UNDER THE COURT OF LAW

AUTHORED BY - Arundhathy VINOD¹

Reg.No.: 132301111

BA LLB (Hons.) (Currently Pursuing) Saveetha School Of Law
Saveetha Institute Of Medical And Technical Sciences (SIMATS)

ABSTRACT

This comprehensive research endeavours to scrutinise and elucidate the intricate dynamics surrounding the role of forensic medicine as a crucial form of evidence within the judicial framework. The central focus lies in understanding how forensic medicine, with its diverse applications, contributes to the determination of guilt or innocence in criminal trials and its broader implications in legal proceedings. The study embarks on an exploration of the multifaceted factors influencing the admissibility of forensic evidence across various legal systems. It seeks to unravel the complexities inherent in the acceptance of such evidence, taking into account legal standards, scientific rigor, and evolving societal expectations. By examining landmark cases and legal precedents, the research aims to delineate patterns and trends in the incorporation of forensic medicine into court proceedings. A pivotal aspect of the investigation involves delving into the reliability of forensic evidence and the challenges associated with ensuring its accuracy. This entails an in-depth analysis of forensic methodologies, potential sources of error, and the evolving landscape of forensic technologies. The research strives to identify areas for improvement and potential reforms that could bolster the credibility of forensic evidence, thereby enhancing its role within the legal system. Ethical considerations form a crucial dimension of the study, exploring the responsibilities of forensic experts and the ethical

¹ Reg.No.: 132301111, BA LLB (Hons.) (Currently Pursuing), Saveetha School Of Law, Saveetha Institute Of Medical And Technical Sciences (SIMATS)

implications of their findings in a legal context. This involves an examination of issues such as impartiality, transparency, and the potential impact of forensic evidence on the rights and well-being of individuals involved in legal proceedings. Furthermore, the research investigates the effective communication of complex forensic findings to judges, juries, and other legal stakeholders. It explores the challenges faced by forensic experts in conveying intricate scientific information in a manner that is comprehensible to non-experts and assesses the implications of miscommunication or misunderstanding in legal decision-making. The study also extends its purview to consider the potential misuse or misinterpretation of forensic evidence, addressing concerns related to false positives, bias, and the limitations inherent in certain forensic methodologies. This critical examination aims to inform discussions on safeguards and protocols to prevent or mitigate the risks associated with the misuse of forensic evidence. As the legal landscape continues to evolve, and forensic technologies advance, this research contributes a nuanced understanding of the intersection between forensic medicine and the court of law. By identifying opportunities for improvement, ethical considerations, and potential reforms, the study offers insights that could shape the future trajectory of the use of forensic evidence in legal proceedings, ensuring its continued relevance, reliability, and ethical integrity.

INTRODUCTION

The intersection of forensic medicine and the judicial system represents a dynamic and intricate field with profound implications for legal proceedings. This research embarks on an exploration of "The Role of Forensic Medicine As Evidence Under the Court Of Law," seeking to unravel the multifaceted dimensions that define its significance in the realm of criminal justice. Forensic medicine, characterized by its application of medical knowledge to legal matters, plays a pivotal role in the determination of guilt or innocence in criminal trials. This study aims to dissect the intricate web of factors influencing the admissibility and acceptance of forensic evidence across diverse legal systems. Understanding the evolving standards, legal precedents, and societal expectations surrounding the incorporation of forensic findings is essential to appreciating the contextual nuances within which this evidence operates. Central to this investigation is an in-depth scrutiny of the reliability of forensic evidence. By delving into forensic methodologies, technological advancements, and potential sources of error, the research seeks to uncover the challenges and opportunities that define the credibility of forensic evidence within the legal landscape. It endeavours to identify areas for improvement, ensuring that forensic evidence aligns with the highest standards of scientific rigour. Ethical considerations form an integral part of this exploration, addressing the responsibilities of forensic experts and the ethical implications of their

findings. The study delves into questions of impartiality, transparency, and the potential impact of forensic evidence on the rights and well-being of those involved in legal proceedings. By examining the ethical dimensions, the research contributes to a broader understanding of the moral compass that should guide the utilisation of forensic medicine in the courtroom. Moreover, effective communication of complex forensic findings represents a critical aspect of this inquiry. The study investigates how forensic experts navigate the challenge of presenting intricate scientific information to judges, juries, and other legal stakeholders. The implications of miscommunication or misunderstanding are explored, shedding light on the need for clarity and comprehension in legal decision-making. This research also contemplates the potential misuse or misinterpretation of forensic evidence, addressing concerns related to false positives, bias, and the limitations inherent in certain forensic methodologies. By scrutinising these challenges, the study aims to inform discussions on safeguards and protocols that can prevent or mitigate the risks associated with the misuse of forensic evidence. As the legal landscape continues to evolve and forensic technologies advance, this exploration provides a foundational understanding of the complex relationship between forensic medicine and the court of law. The research sets the stage for a nuanced examination of opportunities for improvement, ethical considerations, and potential reforms, contributing valuable insights to the ongoing discourse on the role of forensic evidence in shaping just and equitable legal outcomes.

OBJECTIVES

- To find the evidentiary value of forensic evidence in court
- To find the difficulties faced by forensic experts while presenting evidence in court.
- To find the importance of forensic evidence in a criminal investigation.
- To find the effect of technological advancements in forensic technology can have in criminal investigation.

REVIEW OF LITERATURE

Madea, Burkhard. "History of forensic medicine." *Handbook of forensic medicine* (2014): 1-14. The author analysed that forensic medicine developed in relation to law and it was often legal requirements that pushed improvements in forensic medicine forward. The Justinian enactments between AD 529 and 564 represent, according to Sydney Smith, the highest point of achievement in forensic medicine in the ancient world. **Edmond, Gary.** "Advice for the courts? Sufficiently reliable assistance with forensic science and medicine (Part 2)." *The International Journal of Evidence & Proof* 16.3 (2012): 263-297. The author analysed that involving an independent

multidisciplinary advisory panel (or MAP) reviewing impugned forensic science and medical techniques to assess their reliability in order to provide support with admissibility determinations, is intended to provide practical assistance with controversial expert opinion evidence adduced by the state though without excessive encroachment upon the traditional party-dominated accusatorial trial.**Edmond, Gary, and Kent Roach.** "A contextual approach to the admissibility of the state's forensic science and medical evidence." *University of Toronto Law Journal* 61.3 (2011): 343-409. The author analysed that though focused on the need for 'sufficiently reliable' expert opinion evidence, we challenge its contemplation of easier admissibility for experience-based forensic sciences and techniques traditionally admitted.**Edmond, Gary.** "Actual innocents? Legal limitations and their implications for forensic science and medicine." *Australian Journal of Forensic Sciences* 43.2-3 (2011): 177-212. The author analysed that legal limitations, in conjunction with serious and endemic problems with many forensic sciences, mean that forensic scientists and their institutions must develop socio-epistemic legitimacy through greater autonomy from investigators and the courts and a substantial research orientation.

Edmond, Gary. "Legal versus non-legal approaches to forensic science evidence." *The International Journal of Evidence & Proof* 20.1 (2016): 3-28. The author reviews conventional English approaches to the admission and evaluation of expert evidence. It aims to contrast legal approaches to forensic science evidence with the kinds of criteria being promoted by a range of peak scientific organisations. This comparative exercise suggests that admissibility jurisprudence and legal practice might be misguided, particularly in their attempts to regulate the comparison or pattern-matching disciplines.**Fahmy, Khaled.** "The anatomy of justice: forensic medicine and criminal law in nineteenth-century Egypt." *Islamic Law and Society* 6.2 (1999): 224-271. By studying how forensic medicine was introduced into nineteenth-century Egypt, the author argues that the need to exercise better control over the population and monitor crime lay behind the reform process as much as liberal ideas borrowed from Europe did.**Chaudhary, Babulal, Pawan Kumar Shukla, and Binaya Kumar Bastia.** "Role of clinical forensic medicine unit in quality and standardisation of medico-legal reports." *Journal of forensic and legal medicine* 74 (2020): 102007. This study concludes that the errors were significantly reduced in medico-legal reports prepared by forensic experts. It is, therefore, necessary to employ forensic experts at every healthcare facility not only to prevent lawsuits but also to strengthen the judiciary.**Mack, Mrs Shubhi, and Ishita Chatterjee.** "Role of Forensic Evidence in Criminal Justice Delivery System in India." *NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journal/ NVEO*(2021):

5765-5770. Forensic science includes the use of physical and natural sciences for the investigation of civil or criminal cases. It is used for multivariate purposes such as inspecting criminal crimes such as rape, murder, and drug tracking and civil cases as wilfully destructing the natural environment. It includes using modern technologies such as DNA testing, fingerprint profiling, and narco tests so that the facts related to crime and suspects are identified.

Husan, S. (2022). Role of Forensic Evidence in the Criminal Investigation: A Legal Analysis in Bangladesh Perspective. *Traditional Journal of Law and Social Sciences*, 1(02), 181 The author analysed that in a criminal investigation, forensic investigators use a wide range of scientific methods from the chemical, biological, and physical disciplines to solve crimes and bring criminals to justice. It collects and analyses tangible evidence, such as fingerprints, DNA, hair and fibres. As forensic evidence is the ultimate result of forensic science, the court relies on forensic evidence to ensure justice.

Roberts, Paul. "Paradigms of forensic science and legal process: a critical diagnosis." *Philosophical Transactions of the Royal Society B: Biological Sciences* 370.1674 (2015): 20140256. This article reconsiders the relationship between criminal adjudication and forensic expertise in the light of 'new paradigms' of forensic practice and recent law reform. It briefly summarises conventional wisdom on the typical shortcomings of forensic science and other expert evidence, as a springboard for a more searching critical diagnosis of longstanding maladies.

Choong, Kartina A., and Martin Barrett. "Forensic physicians and written evidence: Witness statements v. expert reports." *Journal of Forensic and Legal Medicine* 22 (2014): 93-98. This article aims to highlight the similarities and differences between these 2 roles particularly in relation to the preparation of written evidence. It will take a close look at the forms of written evidence which forensic physicians are expected to produce in those distinct capacities and the attending duties, evidentiary rules and legal liabilities. Through this, the work aspires to assist forensic physicians undertake those responsibilities on a more informed footing.

Hosseini, Sanaei Zadeh. "Modern forensic medicine and the medico-legal system in Iran." *Journal of clinical forensic medicine* 9.1 (2002): 12-14. The history of forensic medicine as it is practised today in Iran is described. Modern forensic medicine was not introduced into Iran until the 1850s. In Iran, medico-legal autopsies are performed for the investigation of suspicious deaths and crimes.

Edmond, Gary. "Icarus and the 'Evidence Act': Section 137, probative value and taking forensic science evidence 'at its highest'." *Melbourne University Law Review* 41.1 (2017): 106-154. When

determining probative value for the purposes of balancing the probative value of evidence against the danger of unfair prejudice to the accused, the High Court has favoured an approach that appears incompatible with a rational response to the treatment of opinions based on specialised knowledge. A majority in *IMM v The Queen* concluded that when determining the probative value of evidence for the purpose of section 137 the trial judge should take the contested evidence at its highest. In doing so the trial judge is prevented from considering the reliability of the evidence or the credibility of the witness.

Haneef, Sayed Sikandar Shah. "Forensic Evidence: A Comparative Analysis of the General Position in Common Law and Shari'ah." *Islamic studies* (2007): 199-216. Forensic evidence has emerged as an important tool in the administration of justice in Western countries, both in civil and criminal cases. In Islamic countries too recourse to forensic evidence is under active consideration of jurists. This paper presents a general overview of the state of forensic evidence in Western jurisprudence as it also tries to identify some of the theoretical bases, *qarīnah* and *ra'y al-khabīr*, for its admission in Islamic jurisprudence.

Crozier, Ivan, and Gethin Rees. "Making a space for medical expertise: Medical knowledge of sexual assault and the construction of boundaries between forensic medicine and the law in late nineteenth-century England." *Law, Culture and the Humanities* 8.2 (2012): 285-304. This article looks at the boundary work performed by Victorian doctors in order to position themselves as beneficial to the court in helping to determine whether a woman had been raped. This article concludes that the reliance upon forensic evidence, the result of such boundary construction, is one of the major factors maintaining the current international "justice gap" in rape cases.

Kelty, Sally F., et al. "Dismantling the justice silos: Flowcharting the role and expertise of forensic science, forensic medicine and allied health in adult sexual assault investigations." *Forensic science international* 285 (2018): 21-28. Forensic science is increasingly used to help exonerate the innocent and establish links between individuals and criminal activities. the development of a flowchart model for adult sexual assault that highlights the range of agencies and practitioners typically involved in sexual assault. The rationale for the flowchart is to produce a visual representation of a typical sexual assault investigative process highlighting where and who plays a role in order to minimise the risk of justice silos. This is the second paper in a series of two.

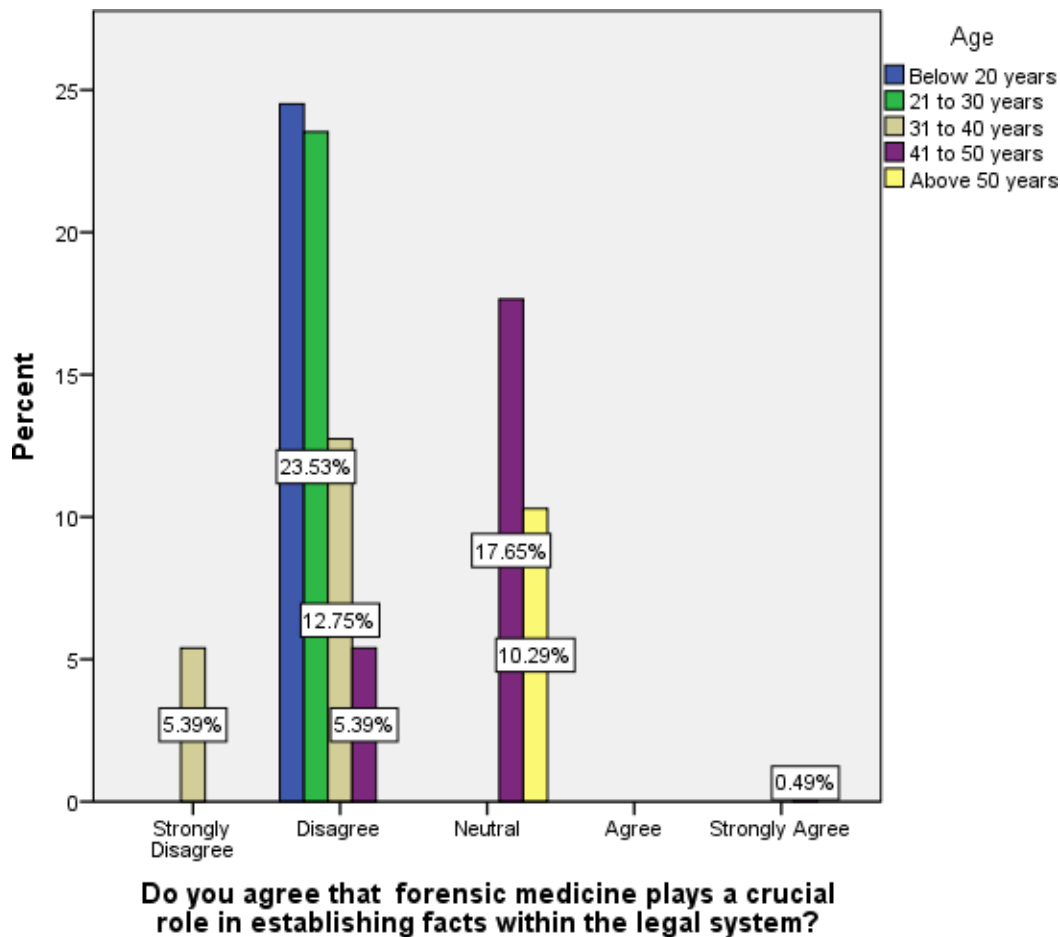
Kloosterman, Ate, et al. "The interface between forensic science and technology: how technology could cause a paradigm shift in the role of forensic institutes in the criminal justice system." *Philosophical Transactions of the Royal Society B: Biological Sciences* 370.1674 (2015): 20140264. In this paper, the importance of modern technology in forensic

investigations is discussed. Recent technological developments are creating new possibilities to perform robust scientific measurements and studies outside the controlled laboratory environment. **Cooper, Sarah Lucy.** "Forensic science identification evidence: tensions between law and science." *The journal of philosophy, science & Law* 16.2 (2016): 1-35. The author analysed that *for decades, courtrooms around the world have admitted evidence from forensic science analysts, such as fingerprint, tool-mark and bite-mark examiners, in order to solve crimes. Scientific progress, however, has led to significant criticism of the ability of such disciplines to engage in individualization i.e., "match" suspects exclusively to evidence.* **Edmond, Gary.** "Icarus and the Evidence Act: Section 137, probative value and taking forensic science evidence at its highest." *Melbourne University Law Review* 41.1 (2017): 106-154. This article explains why, whatever the merits of such an approach might be in relation to other types of evidence and witness, trial judges are incapable of assessing the probative value of most forms of scientific, medical and technical opinion evidence - particularly forensic science and forensic medicine evidence - without insight into reliability or trustworthiness demonstrated through formal evaluation. **Singh, Arun Kumar, and Ameesha Singh.** "The Legal Aspects of Forensic Science with Reference to Crime Scene Investigation." *IUP Law Review* 9.1 (2019). The forensic sciences have made dramatic scientific advances in criminal case processing. The legal system and forensic science aim to produce knowledge and find facts as the foundation for justice with the solitary purpose of assisting the court in its evidential task. Thus, it leads to the solicitation of knowledge and methodology of various disciplines of science to legal matters. The growing implication of science in crime investigation for inquiring, collection, preservation, and analysis of evidence for prosecuting an offender in the court has concreted an easier path for administering justice.

METHODOLOGY

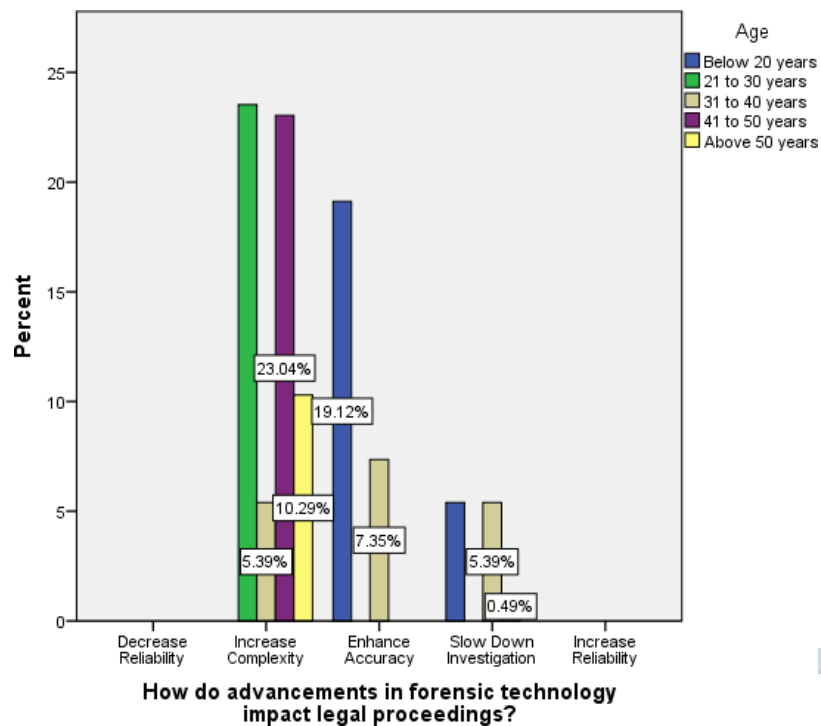
The research followed is descriptive research. The data was collected through a questionnaire and sample size was 202. Convenience sampling method is adopted in the study to collect the data. The samples were collected from the general public, family and friends of the author. The independent variables are age, gender, educational qualification, occupation and marital status. The dependent variables are evidentiary value of forensic evidence, technological advancements and its effect, globalised standards for forensic evidence submission.

GRAPHICAL REPRESENTATION



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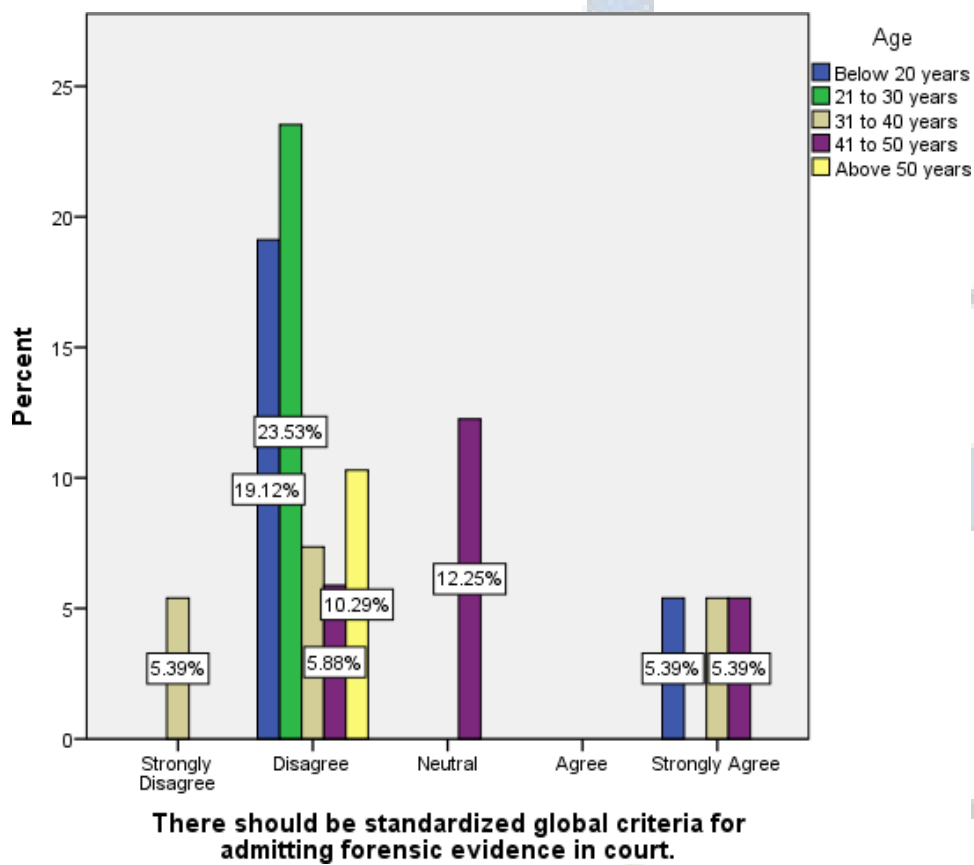
Figure 1 shows the agreeability that forensic medicine plays a crucial role in establishing facts within the legal system with respect to age.



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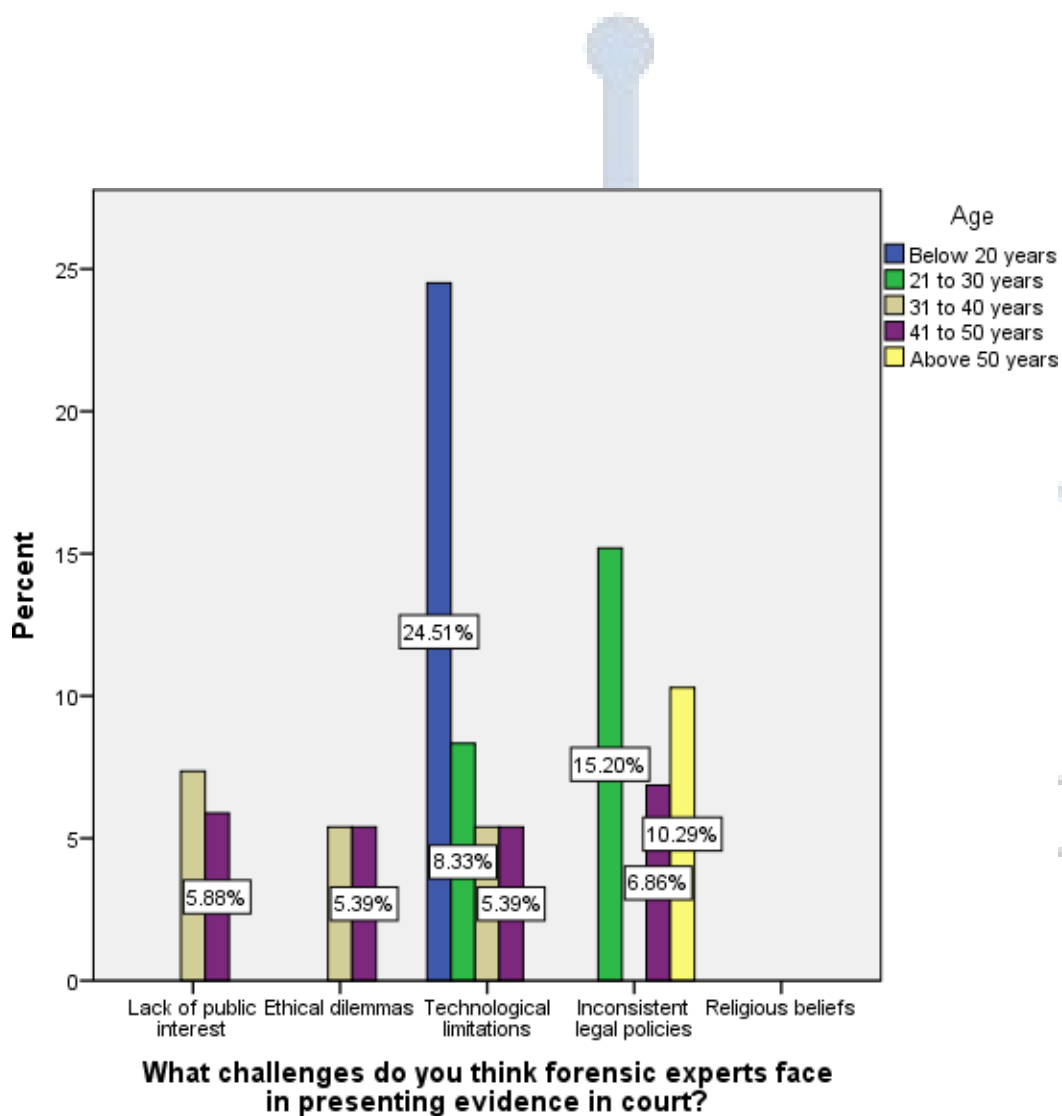
Figure 2 shows the responses to how do advancements in forensic technology, impact legal proceedings with respect to age.

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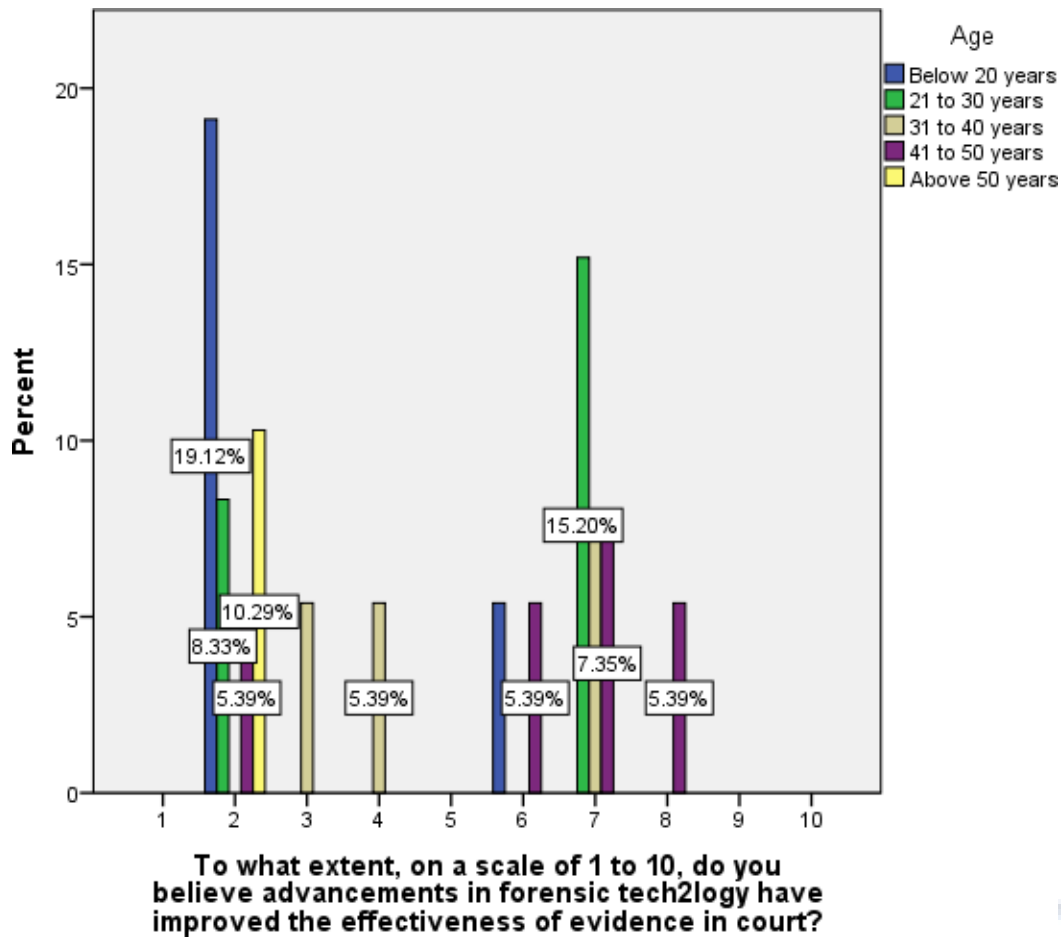
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Figure 3 shows level of agreeability to the statement there should be standardised global criteria for admitting forensic evidence in court.



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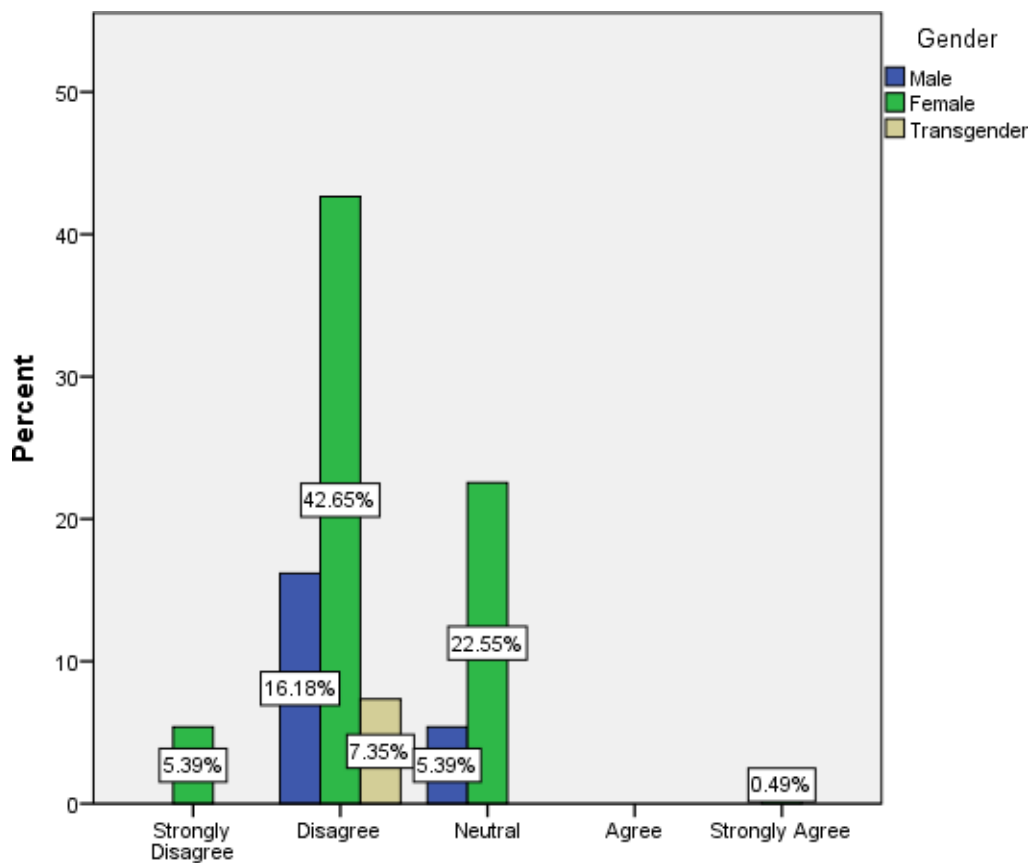
Figure 4 shows the age of people with respect to the question of what challenges does forensic experts face in court.



Legend

Figure 5 shows the age of people with respect to the question of to what extent does advancement in forensic technology have improved effectiveness of evidence in court.

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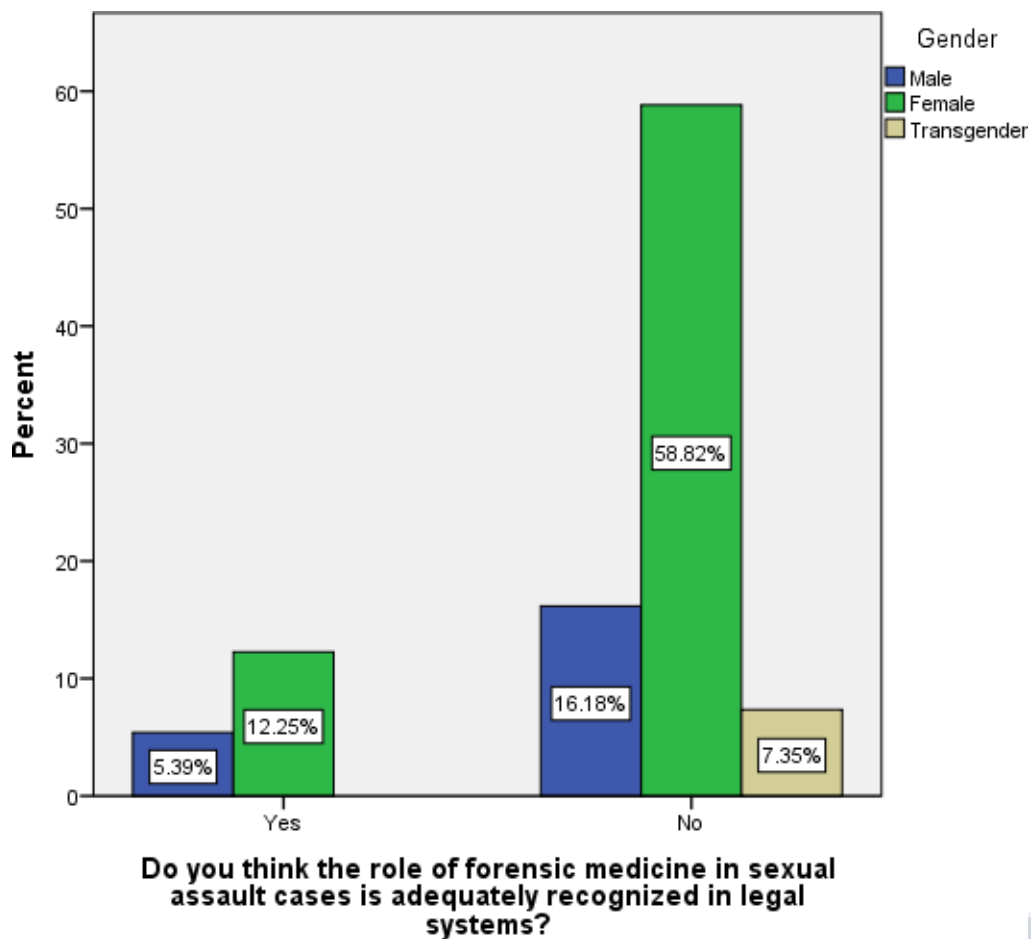


Do you agree that forensic medicine plays a crucial role in establishing facts within the legal system?

Legend

Figure 6 shows the gender of the people with respect to the question of agreeability on whether forensic medicine plays a crucial role in establishing facts within the legal system.

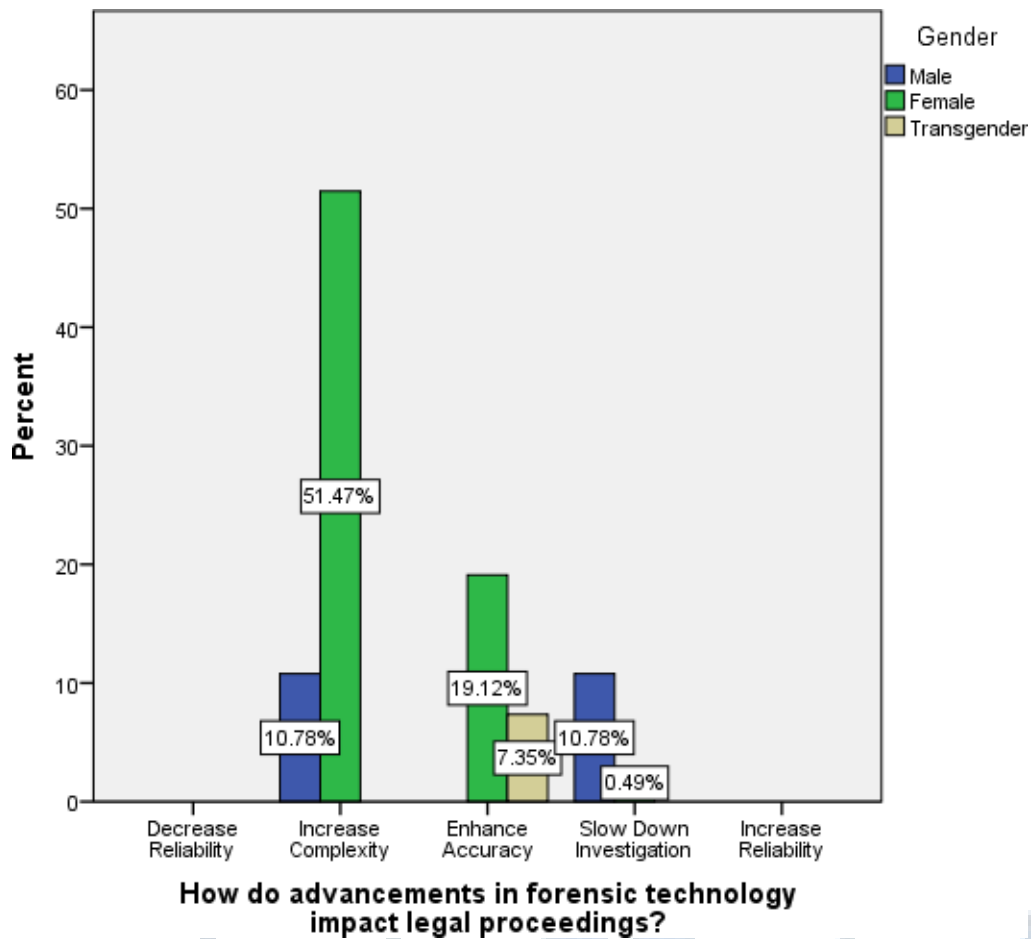
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Legend

Figure 7 shows the gender of the people with respect to the question on the role of forensic medicine in sexual assault cases.

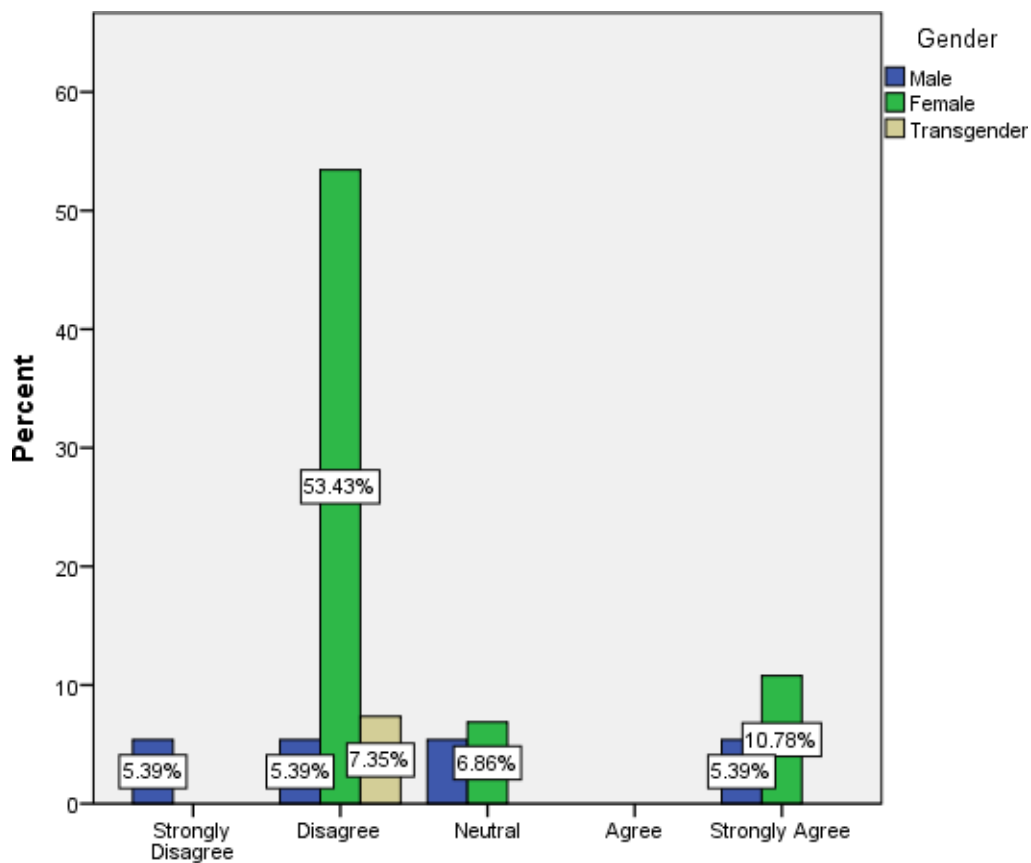
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Legend

Figure 8 shows the gender of people with respect to the question of how does advancement of forensic technology impact legal proceedings.

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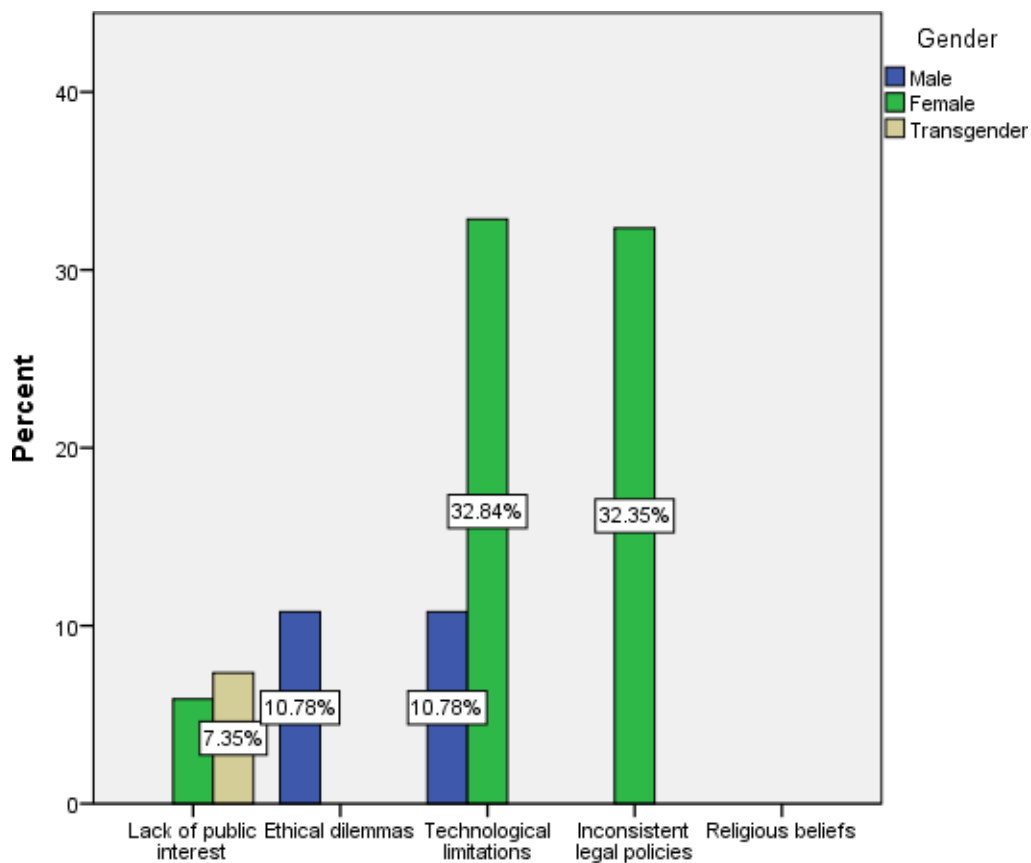


There should be standardized global criteria for admitting forensic evidence in court.

Legend

Figure 9 shows the gender of people with respect to the question of whether there should be a standardised global criteria for admitting forensic evidence in court.

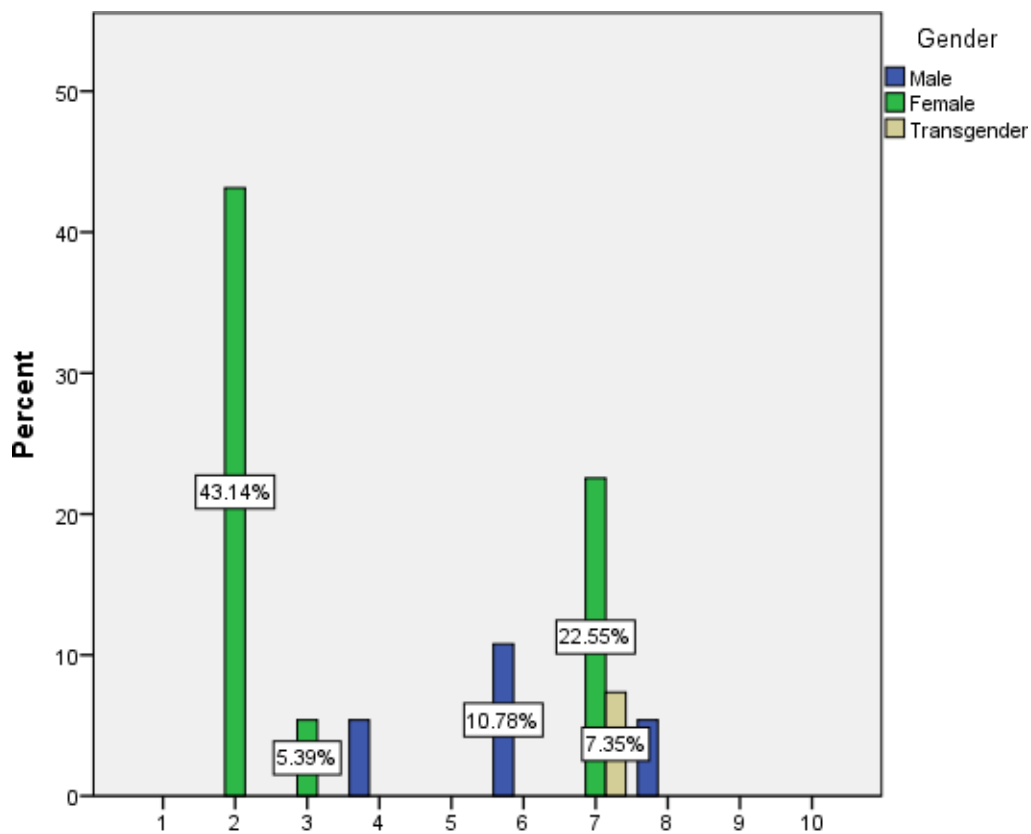
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Figure 10 shows the gender of people with respect to the question of what challenges do they think forensic experts face in presenting evidence in court.

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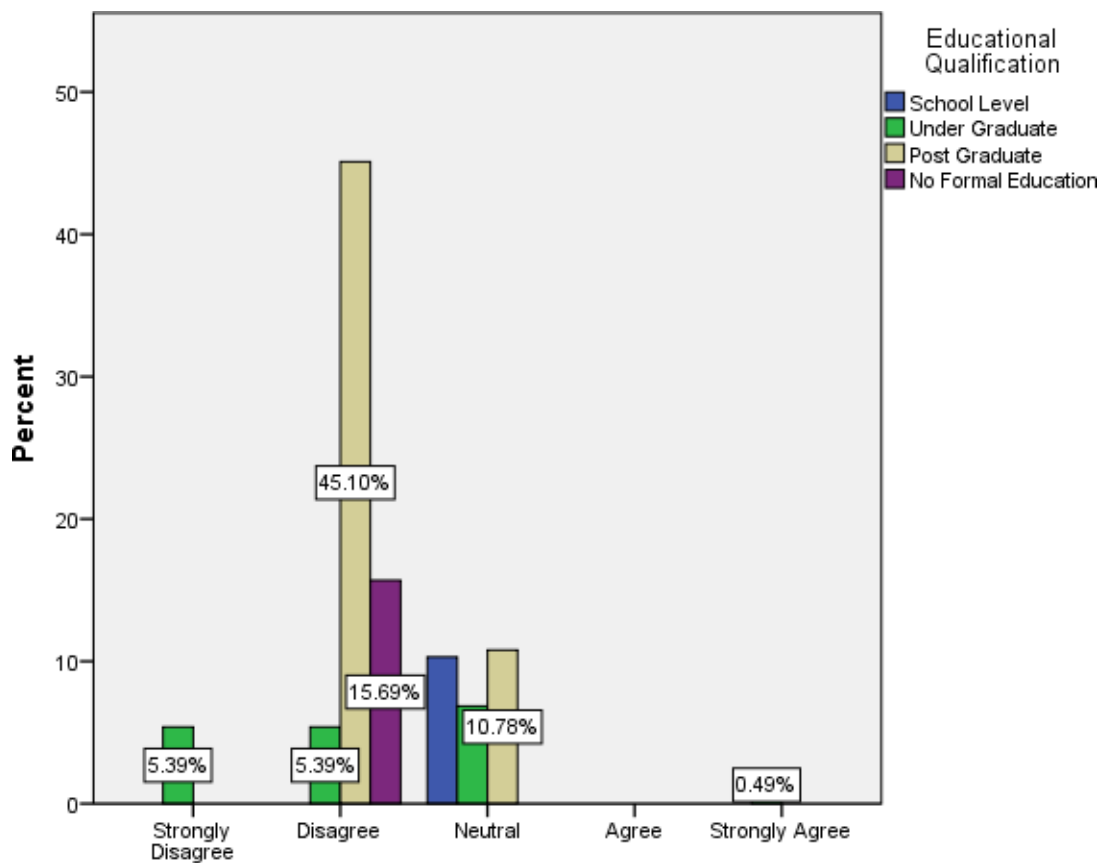


To what extent, on a scale of 1 to 10, do you believe advancements in forensic technology have improved the effectiveness of evidence in court?

Legend

Figure 11 shows the gender of the people with respect to the question of rating how much advancements in forensic technology have improved the effectiveness of evidence in court.

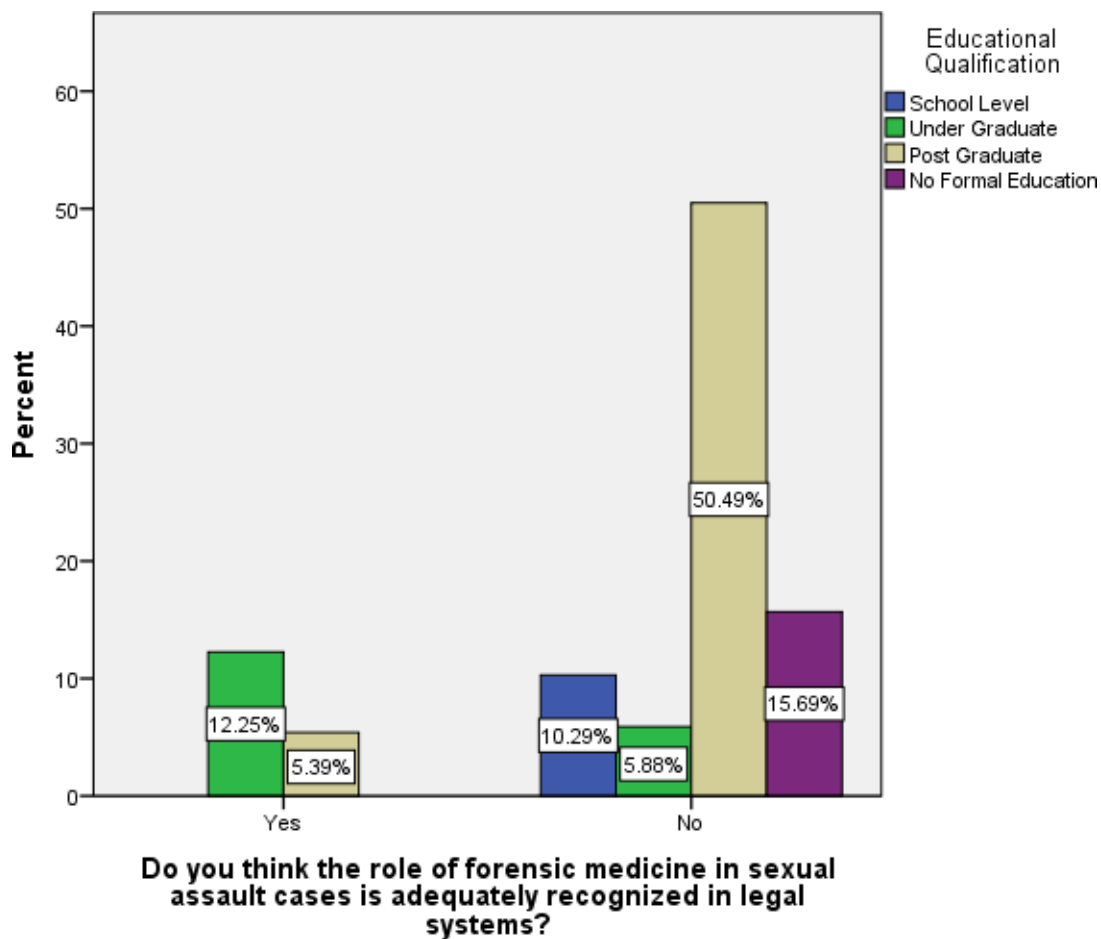
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Legend

Figure 12 shows the educational qualification with respect to the question of agreeability on does forensic medicine plays crucial role in establishing facts within legal system.

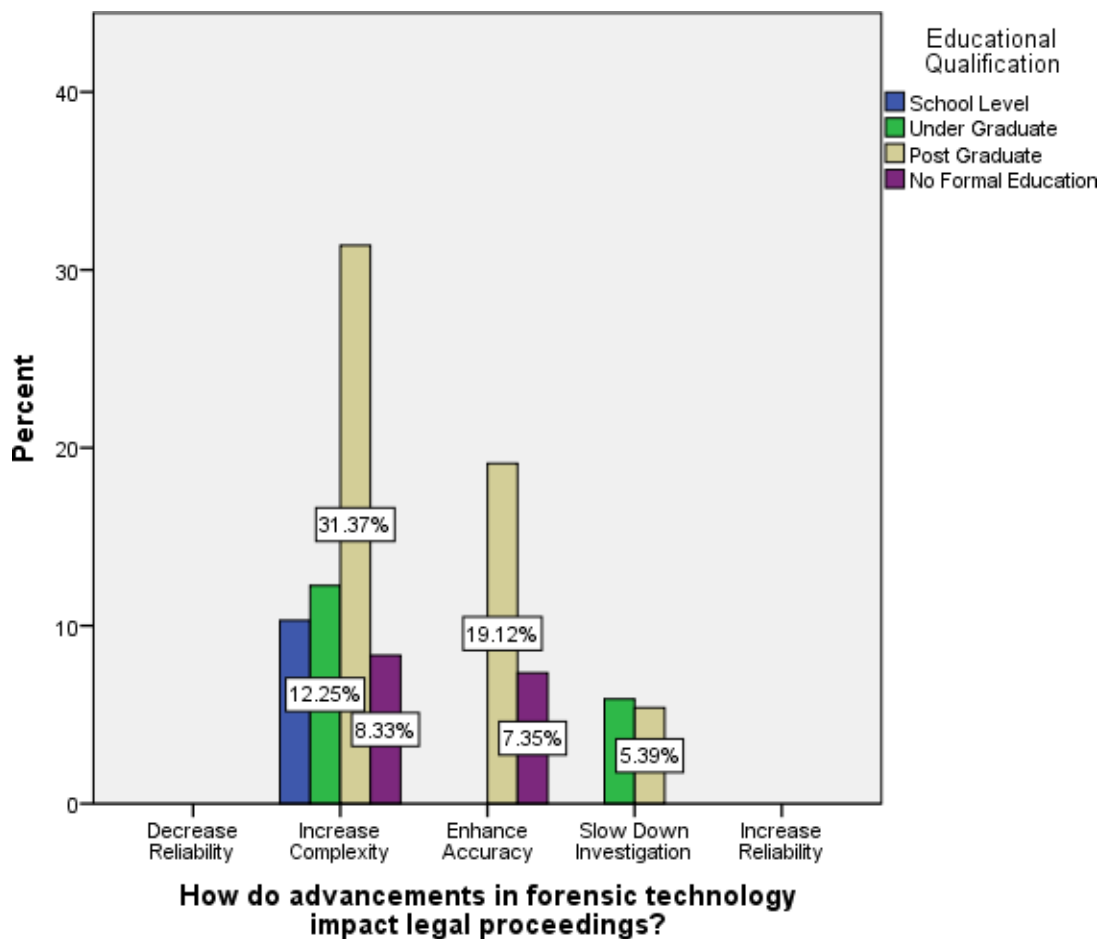
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Figure 13 shows the educational qualification of people with respect to the question of does role of forensic medicine in sexual assault cases is adequately recognised in legal systems.

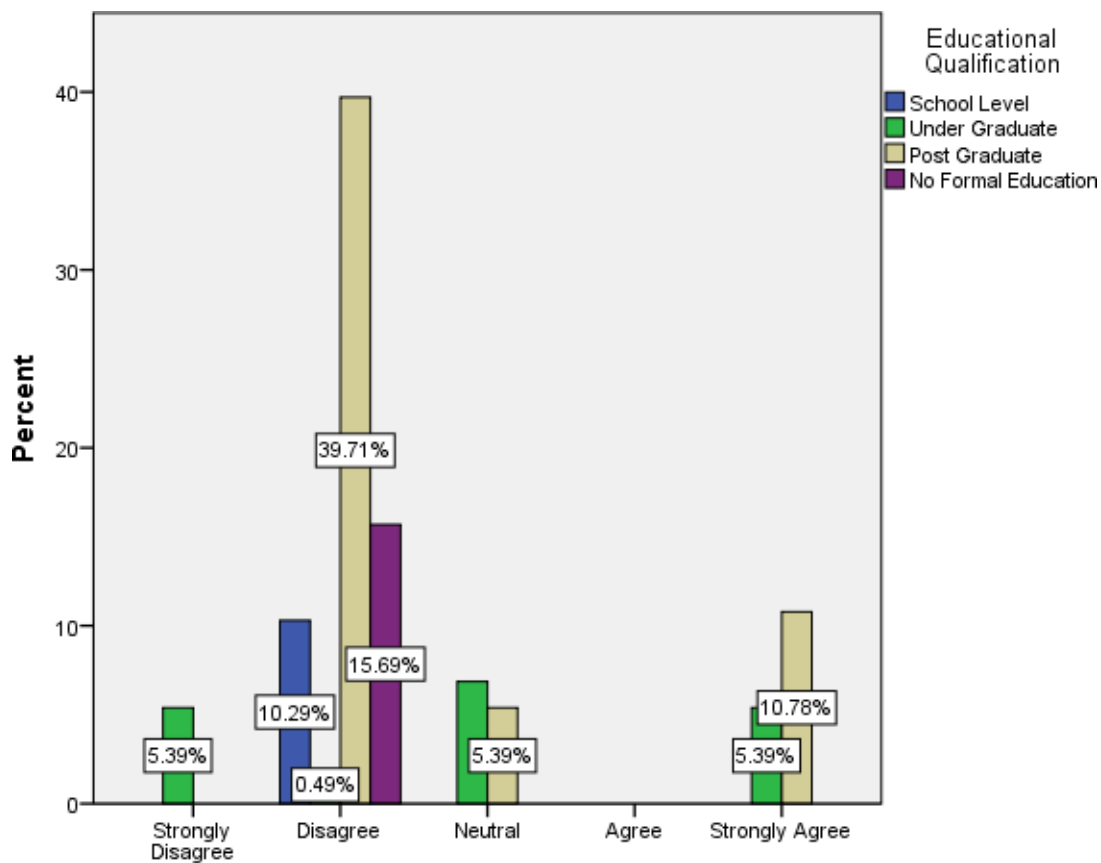
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Figure 13 shows the educational qualification of people with respect to the question of how advancements of forensic technology impact legal proceedings.

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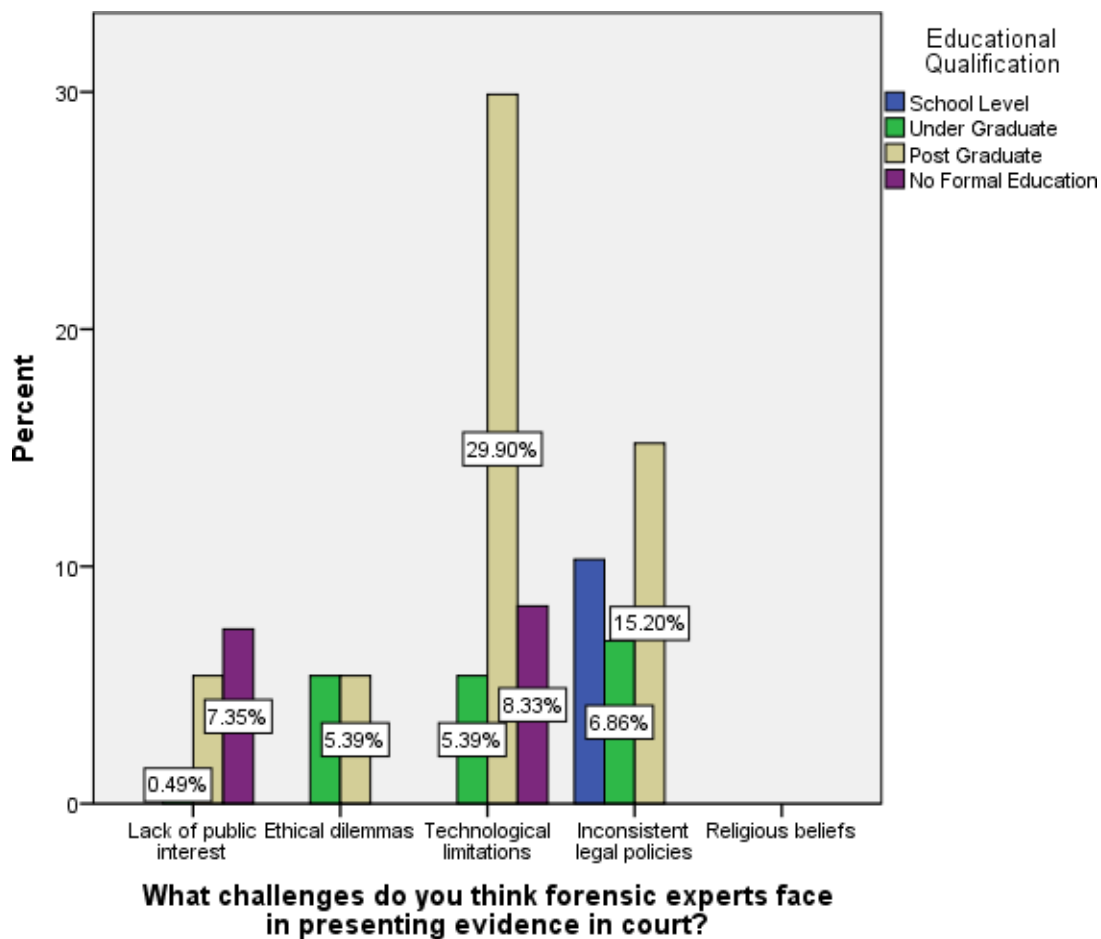


There should be standardized global criteria for admitting forensic evidence in court.

Legend

Figure 14 shows the educational qualification of people with respect to the question of whether there should be a standardised global criteria for admitting forensic evidence in court.

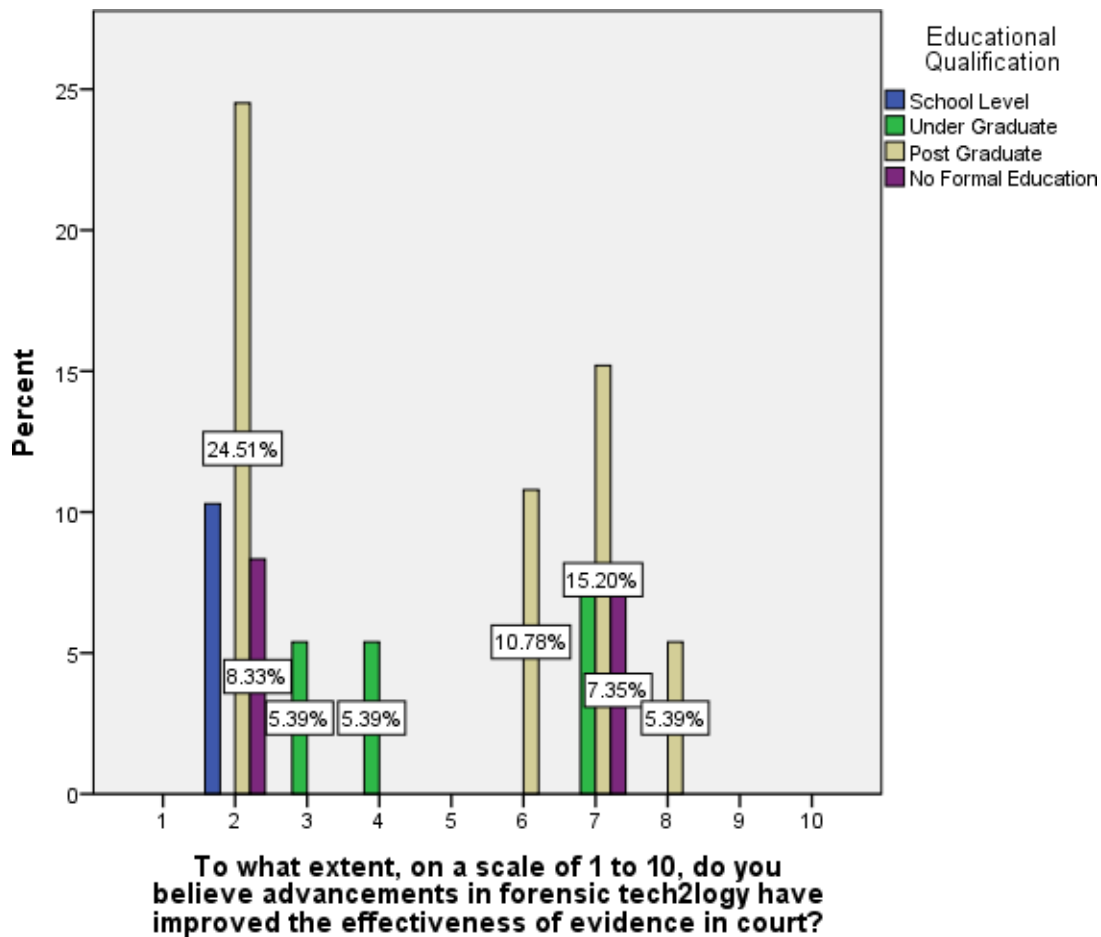
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Legend

Figure 15 shows educational qualification of people with respect to the question of what challenges does forensic evidence face while presenting evidence in court.

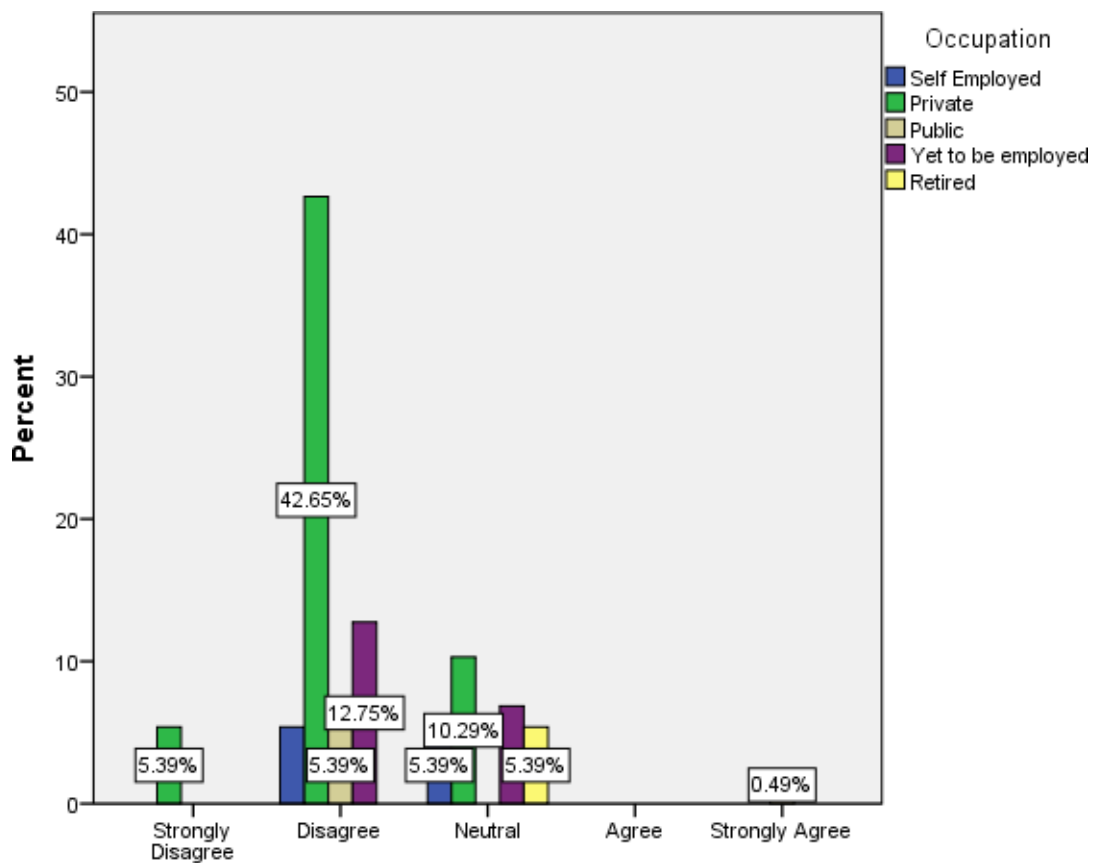
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Figure 16 shows the educational qualification of people with respect to the question of how much does technological advancements have increased effectiveness of forensic evidence in court.

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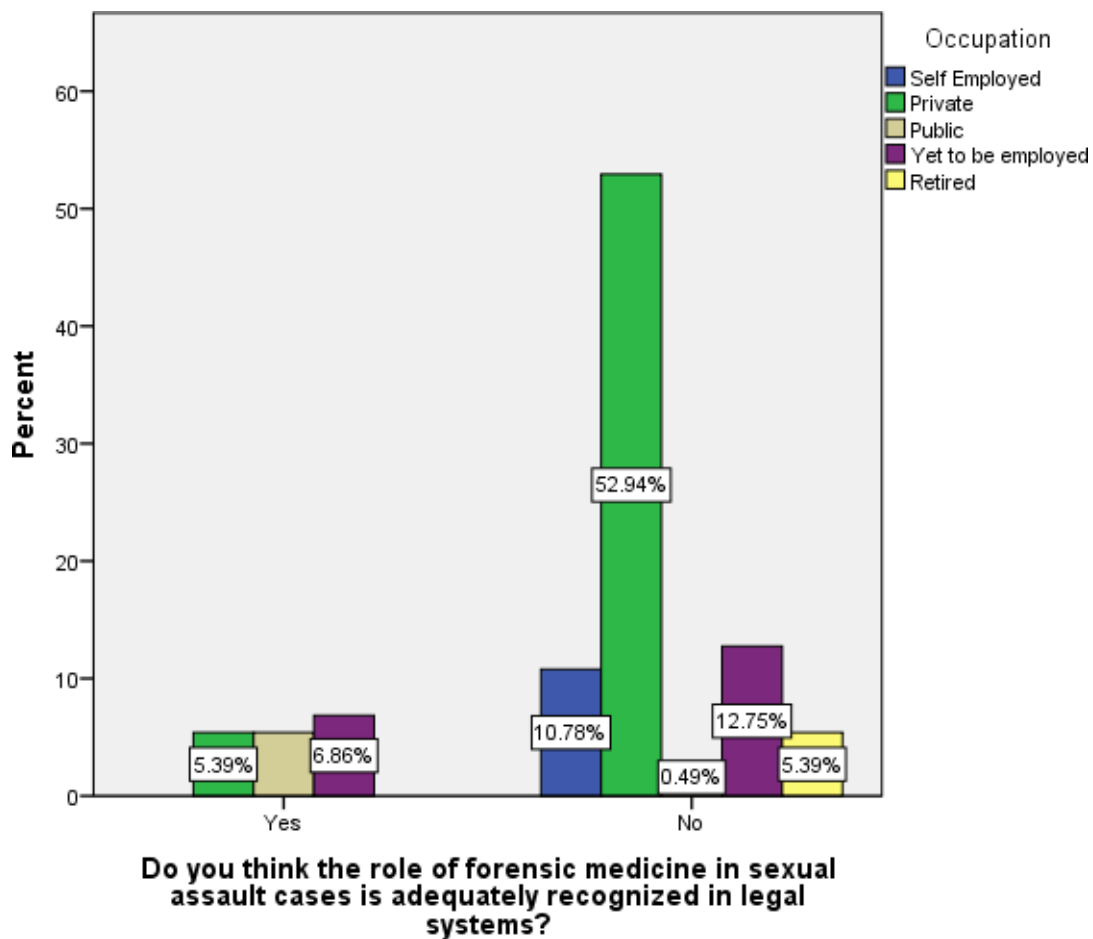


Do you agree that forensic medicine plays a crucial role in establishing facts within the legal system?

Legend

Figure 17 shows the occupation of people with respect to the question of role of forensic medicine in the legal system.

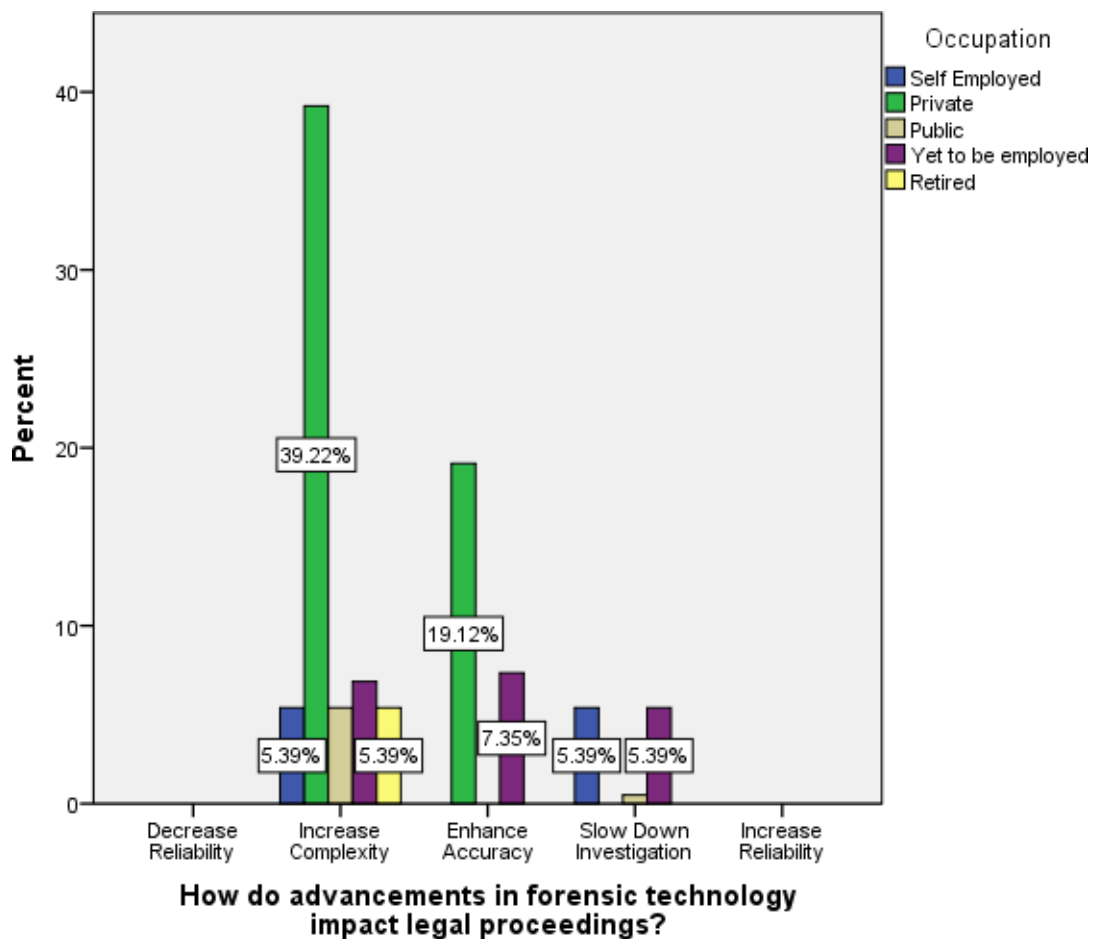
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Legend

Figure 18 shows the occupation of people with respect to the question of is the forensic evidence adequately recognised in legal system for sexual harassment cases.

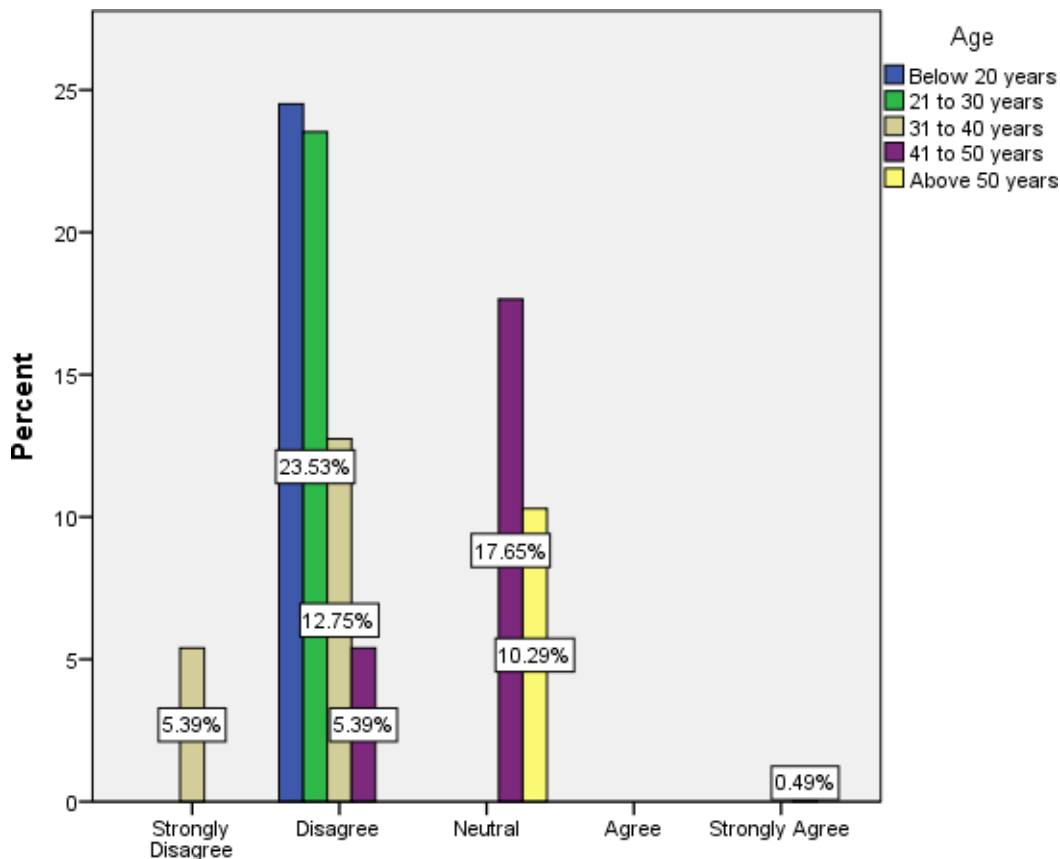
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Figure 19 shows the occupation of people with respect to the question of how does advancements in forensic technology impact legal proceedings.

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Do you agree that forensic medicine plays a crucial role in establishing facts within the legal system?

Legend

Figure 20 shows the agreeability that forensic medicine plays a crucial role in establishing facts within the legal system with respect to age.

RESULTS

In **figure 1** 23.53% people who are below the age of 20 years disagree that foreign medicine plays a crucial role in establishing facts with an illegal system 17.65% 41 to 50 year are neutral, 5.39% 31 to 40 year olds strongly disagree. In **figure 2** 23.04% 41 to 50 year old things that advancement in foreign technology technology will increase the complexity in legal proceedings, 19.12% people below 20 years old think that will enhance the accuracy ,5.39% 31 to 40 year old think that it will slow down investigation. In **figure 3**, 23.53%, 21 to 30 year olds, disagree that there should be a standardised global criteria for admitting foreign evidence in court 12.25%, 40 into 50-year-old are neutral while 5.39%, 31 to 40 year olds, strongly disagree. In **figure 4**, 24.51% people below 20 years think that technological limitations might be one of the crucial challenges faced by forensic experts while presenting evidence in court, 50.20%, 21 to 30 year think that it could be consistent legal policies while 10.29% above 60 years also agree with that.

In **figure 5**, 19.12% below 20 year treated 2 that advancement in technology, technology have improved effectiveness of forensic evidence in court while 15.20%, 21 to 30 year rules rate seven and 5.39% 40 into 50 year-old rated eight. In figure 6, 22.55% Of, females are neutral that foreign medicine plays a crucial role in establishing facts within the legal system 16.18% males disagree with the statement. **Figure 7** shows the agree ability to the statement do you think the role of forensic medicine in sexual assault cases is adequately recognised in legal system and 58.82% of female respondents say no and 5.39% of male respondents say yes. **Figure 8** shows that 51.47% of female respondents think that increase in complexity is how advancement in forensic technology, impact legal proceedings and 10.78% of male respondents say that it's slows down investigation. **Figure 9** shows that 53.43% of female respondents disagree to the statement that there should be standardised global criteria for admitting forensic evidence in court and 5.39% of male respondents strongly agree with the statement. **Figure 10** shows that 32.84% of female respondents think that technological limitations are challenges forensic experts face in presenting evidence in court and 10.78% of male respondents think it's ethical dilemmas. **Figure 11** shows that 43.14% of female respondents do not think that advancements in forensic technology have improved the effectiveness of evidence in court and 10.78% of male respondents are neutral on the statement. **Figure 12** shows that 45.10% of postgraduate respondents disagreed to the statement that forensic medicine plays a crucial role in establishing facts within the legal system and 10.78 percent of School level respondents were neutral on it. **Figure 13** shows that 50.49% of postgraduate respondents say a no to the question, Do you think the role of forensic medicine in sexual assault cases is adequately recognised in legal system and 12.25% of undergraduate respondents say yes. **Figure 14** shows that 31.37% of postgraduate respondents say that increase complexity is how advancements in forensic technology, impact legal proceedings and 7.35% of respondents with no formal education thinks that it enhance accuracy. **Figure 15** shows that 39.71% of postgraduate respondents disagree to the statement that there should be standardised global criteria for admitting forensic evidence in court and 5.39% of undergraduate respondents are neutral on the statement. **Figure 16** shows that 29.90% of postgraduate respondents think that technological limitations is the challenge that forensic experts face in presenting evidence in court and 7.35% of respondents with no formal education think that its lack of public interest and 5.39% of undergraduate think it's ethical dilemmas. **Figure 17** shows that 24.51% of postgraduate respondents say that no, advancements in forensic technology have not improved the effectiveness of evidence in court and 7.35% of respondents with no formal education believe advancements in foreign sick technology have improved the effectiveness of evidence in court. **Figure 18** shows that 42.65% of Private employees disagree with the statement that forensic

medicine place a crucial role in establishing facts within the legal system and 5.39% of respondents yet to be employed are neutral on the statement. **Figure 19** shows that 52.94% of private employees do not think that the role of forensic medicine in sexual assault cases is adequately recognised in legal system and 6.86% of respondents are yet to be employed, think that the role of forensic medicine in sexual assault cases is indeed adequately recognised in legal system. **Figure 20** shows that 39.22% of private employees think that advancement in forensic technology, impact legal proceedings through increase in complexity and 7.35% of respondent is yet to be employed, say that it enhance accuracy.

DISCUSSION

Figure 1 indicate varying opinions across different age groups regarding the role of forensic medicine in establishing facts within the legal system. It's noteworthy that a significant percentage of respondents below 20 years disagreed with the statement, suggesting a potential lack of awareness or skepticism among younger individuals regarding the importance of forensic evidence in legal proceedings. On the other hand, a neutral stance was observed among respondents aged 41 to 50 years, indicating a need for further exploration of attitudes towards forensic medicine across different demographics. **Figure 2** reflect divergent views on how advancements in forensic technology influence legal proceedings. While some believe that technology enhances accuracy, others express concerns about increased complexity or slower investigations. These findings highlight the nuanced perspectives surrounding the integration of technology in forensic practices and underscore the importance of addressing both its potential benefits and challenges within the legal context. **Figure 3** suggests mixed opinions regarding the need for standardized global criteria for admitting forensic evidence in court. While a considerable percentage of respondents disagreed with the statement, indicating skepticism towards global standardization, a significant portion remained neutral. This indicates a complex landscape where stakeholders may have differing views on the feasibility and necessity of global standards in forensic practices. **Figure 4** shed light on the diverse challenges encountered by forensic experts when presenting evidence in court. While technological limitations emerged as a prominent concern among younger respondents, others emphasized consistent legal policies or ethical dilemmas. These findings underscore the multifaceted nature of challenges faced by forensic professionals and highlight the need for comprehensive strategies to address them effectively. **Figure 5** reveals varying perceptions regarding the effectiveness of forensic technology in court proceedings. While some respondents believe that advancements have improved effectiveness, others remain neutral or express skepticism. This suggests a need for

ongoing evaluation and communication of the capabilities and limitations of forensic technologies to ensure informed decision-making within the legal system. **Figure 6** indicates gender differences in attitudes towards the role of forensic medicine in establishing facts within the legal system. While a significant percentage of females disagreed with the statement, males exhibited a more varied response, with some expressing agreement or neutrality. These findings suggest the presence of gender-specific factors influencing perceptions of forensic evidence and underscore the importance of addressing gender disparities in legal contexts. **Figure 7** reflect concerns regarding the adequacy of recognition for the role of forensic medicine in sexual assault cases within the legal system, particularly among female respondents. This highlights a potential gap in acknowledging the significance of forensic evidence in addressing sexual violence and underscores the need for enhanced awareness and integration of forensic practices in such cases. **Figure 8** suggests divergent views on how advancements in forensic technology impact legal proceedings, with a majority of female respondents expressing concerns about increased complexity. In contrast, male respondents exhibited a more varied response, reflecting differing perspectives on the implications of technological advancements within the legal domain. **Figure 9** indicates skepticism towards the idea of standardized global criteria for admitting forensic evidence in court, particularly among female respondents. This underscores the need for further exploration of the perceived benefits and challenges associated with global standardization efforts within the forensic community. **Figure 10** highlights technological limitations as a significant challenge faced by forensic experts when presenting evidence in court, particularly among postgraduate respondents. This underscores the importance of addressing technological barriers and enhancing infrastructure to support the effective utilization of forensic evidence within the legal system. Figure 11 reveals varying perceptions regarding the effectiveness of forensic technology in court proceedings, with a considerable percentage of female respondents expressing skepticism. This underscores the importance of transparent communication and evidence-based practices to foster trust in the reliability of forensic technologies within the legal context. Figure 12 suggest differing perceptions of the role of forensic medicine among respondents with varying educational backgrounds. While a significant percentage of postgraduate respondents disagreed with the statement, indicating potential skepticism or critical evaluation of forensic practices, those with a school-level education exhibited a more neutral stance. This highlights the influence of educational experiences on attitudes towards forensic evidence and underscores the importance of education in fostering informed decision-making within the legal system. Figure 13 reflect concerns regarding the recognition of forensic medicine in sexual assault cases within the legal system, particularly among postgraduate respondents. This

underscores the need for enhanced awareness and integration of forensic practices in addressing sexual violence, as well as the importance of recognizing the expertise of forensic professionals in such contexts. Figure 14 suggests concerns about increased complexity resulting from advancements in forensic technology, particularly among postgraduate respondents. This highlights the need for ongoing evaluation and adaptation of forensic practices to ensure their compatibility with evolving legal frameworks and technological capabilities. Figure 15 indicate skepticism towards the idea of standardized global criteria for admitting forensic evidence in court, particularly among postgraduate respondents. This underscores the need for further exploration of the perceived benefits and challenges associated with global standardization efforts within the forensic community. Figure 16 highlight technological limitations as a significant challenge faced by forensic experts when presenting evidence in court, particularly among postgraduate respondents. This underscores the importance of addressing technological barriers and enhancing infrastructure to support the effective utilization of forensic evidence within the legal system. Figure 17 reveals varying perceptions regarding the effectiveness of forensic technology in court proceedings, with a considerable percentage of postgraduate respondents expressing skepticism. This underscores the importance of transparent communication and evidence-based practices to foster trust in the reliability of forensic technologies within the legal context. Figure 18 suggest differing perceptions of the role of forensic medicine among respondents with varying employment statuses. While a significant percentage of private employees disagreed with the statement, indicating potential skepticism or critical evaluation of forensic practices, those yet to be employed exhibited a more neutral stance. This highlights the influence of professional experiences on attitudes towards forensic evidence and underscores the importance of professional development in fostering informed decision-making within the legal system. Figure 19 reflect concerns regarding the recognition of forensic medicine in sexual assault cases within the legal system, particularly among private employees. This underscores the need for enhanced awareness and integration of forensic practices in addressing sexual violence, as well as the importance of recognizing the expertise of forensic professionals in such contexts. Figure 20 suggests concerns about increased complexity resulting from advancements in forensic technology, particularly among private employees. This highlights the need for ongoing evaluation and adaptation of forensic practices to ensure their compatibility with evolving legal frameworks and technological capabilities.

CONCLUSION

In conclusion, the role of forensic medicine as evidence under the court of law is undeniably significant. It serves as a crucial tool in establishing timelines, determining causes of death, and linking suspects to crime scenes. The credibility of forensic evidence, influenced by advancements in technology, ethical considerations, and global standardisation, plays a pivotal role in ensuring a fair legal system. Challenges faced by forensic experts, such as presenting evidence in court and addressing scalability issues, highlight the need for continuous improvements and adaptations. Public trust, as well as the integration of forensic science in sexual assault cases, remains essential for the effective functioning of forensic medicine in the legal domain. Overall, the evolving landscape of forensic medicine requires a balanced approach that considers reliability, ethics, and scalability to maintain its vital role in the pursuit of justice within the legal system. The credibility of forensic evidence is a linchpin in the legal process. As technology advances, it enhances the precision and reliability of forensic techniques. However, this progress comes with challenges, such as ensuring the ethical use of technology and maintaining public trust. The ethical considerations surrounding forensic evidence involve not only the methods employed but also the potential impact on individual rights and privacy. Striking a balance between technological advancements and ethical standards is crucial for fostering trust in the legal system. Global standardization emerges as a noteworthy consideration in the utilization of forensic evidence. Establishing consistent criteria for admitting such evidence across jurisdictions is paramount for ensuring fairness and impartiality. The absence of standardized protocols may lead to discrepancies in the acceptance of forensic findings, highlighting the need for a unified approach to maintain the integrity of the legal process on a global scale. Forensic experts face challenges when presenting evidence in court, ranging from technological limitations to addressing complex scientific concepts for a non-expert audience. Overcoming these challenges necessitates ongoing professional development and effective communication strategies. In essence, the role of forensic medicine in the court of law is dynamic and integral to the pursuit of justice. Balancing technological advancements, ethical considerations, standardisation, and scalability is imperative to ensure the continued effectiveness and reliability of forensic evidence in legal proceedings. As we navigate the evolving landscape of forensic science, it is essential to uphold the principles of fairness, transparency, and ethical responsibility to maintain public confidence in the legal system's ability to deliver justice.