

Research Article

Legal Review of Specimen Collection for DNA Testing Without the Sample Owner's Authorization

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Abstract: In the modern legal system, Deoxyribonucleic Acid (DNA) testing has become an important tool in the resolution of criminal and civil cases in Indonesia. The use of DNA can assist in determining blood relations, uncovering sexual abuse cases, and proving involvement in other crimes. Nonetheless, there are various legal issues that arise regarding the collection of DNA specimens without the consent of the sample owner. In Indonesia, although there are personal data protection regulations such as the Health and Population Administration Law, there are no specific provisions regarding the legality of unauthorized DNA sampling. This creates uncertainty in the legal system, especially in terms of evidence being recognized in court. Unauthorized DNA sampling can violate an individual's right to privacy guaranteed by the 1945 Constitution and the Criminal Procedure Law. This potentially makes DNA test results inadmissible as valid evidence in court. Therefore, this study aims to analyze the legality of the practice of unauthorized DNA sampling and its impact on the legal evidentiary system in Indonesia. The study also highlights the importance of medical ethics and legal protection of privacy in determining the validity of DNA evidence in judicial proceedings. It also explores the role of medical ethics and privacy law in determining the validity of DNA test results in the judicial process, and provides recommendations for clearer regulations regarding DNA sampling procedures.

Keywords: legality; DNA testing; right to privacy; legal evidence; consent.

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1. Introduction

The development of science and technology, particularly in the field of biomedicine and forensics, has contributed significantly to the modern justice system. One of the most important instruments in this regard is Deoxyribonucleic Acid (DNA) examination, which is now recognized as scientific evidence with the highest level of accuracy in identifying individuals and kinship relationships. DNA testing has a strategic position in proving criminal, civil and other cases, given its ability to reveal material truth scientifically and objectively. [1, pp. 4-5]

However, this progress has created new complex legal dilemmas, especially in relation to the protection of human rights. In the concept of *rechtsstaat* adopted by Indonesia, respect for individual rights to *bodily* integrity and the right to privacy are fundamental principles guaranteed in Article 28G paragraph (1) of the 1945 Constitution of the Republic of Indonesia, which explains "Everyone has the right to protection of self, family, honor, dignity, and property under his control ...". Every medical action, including the collection of body specimens for DNA testing, should be based on the principle of consensualism, as a form of respect for personal autonomy." [2, pp. 29-40]. [2, pp. 29-40]

The development of DNA testing in Indonesia is related to advances in forensic science, health, and law. DNA testing has proven to be very helpful in uncovering various criminal cases, identifying victims of accidents or natural disasters, and finding the relationship between children and parents. Ethical DNA technology is technology that has been known and used for a long time, such as measuring DNA purity, separating DNA from RNA, and using DNA as a *marker system*. Unethical DNA technologies, on the other hand, are newer and unknown, such as *CRISPR/Cas9* technology, which is used to cut and insert DNA sequences with great precision. [3, p. 1] In addition, its use also extends to the legal field, especially for proving criminal cases such as murder, rape, and determining family relationships in cases of inheritance or child custody disputes. The importance of DNA testing in various fields prompted the passage of relevant laws, which provide a legal framework for the use of DNA testing in Indonesia. Here are some important milestones in the history of the passage of DNA Test-related laws in Indonesia:

- 1990s: Institutions such as the National Police's Forensic Laboratory Center (Puslabfor) began using DNA testing in criminal investigations.
- 2000s: High-profile cases such as the Bali bombing and Aceh tsunami accelerated the use of DNA testing in the mass identification process. The increasing number of cases requiring DNA evidence triggered the need for regulation to ensure tests were conducted according to scientific and ethical standards.

On the other hand, developments in the health sector such as genetic disease testing and medical purposes have also driven the importance of DNA testing in health services. Some of the establishment of regulations include:

- Special Regulations, several technical regulations are issued by relevant agencies, including the National Police, namely the Regulation of the Chief of Police of the Republic of Indonesia No. 12 of 2011 which regulates police medicine, where forensics including DNA testing is an important part of criminal investigations. [4, pp. 199-207]
- Law No. 72/2012 on the National Health System is used as a reference on Medical and Patient Data Protection. [5, pp. 222-232]
- Law No. 27 of 2022 on Personal Data Protection.
- The latest development is the discussion of a bill related to the use of genetic data to protect individual privacy and prevent misuse of DNA data.

In the modern legal system, DNA testing has become a very important tool in various cases, both in the resolution of criminal and civil matters. Law No. 23/2006 on the amendment of Law No. 24/2013 on Population Administration explains that DNA tests can be used as one of the scientific evidence to prove or disprove a person's involvement in a legal event, especially in cases such as determining blood relationship status. However, behind this technological advancement, various legal issues arise, one of which is the legality of taking specimens for DNA tests without the consent of the sample owner. [6, pp. 1-18]

In cases of biological father recognition of children out of wedlock, sometimes the defendant does not want to provide DNA sources to the plaintiff, so it is not uncommon for the defendant to take methods that actually violate the law by stealing the defendant's DNA sources, such as stealing blood, sperm, or hair samples from the defendant, this issue becomes important considering that DNA sampling involves the human rights of individuals, especially the right to privacy and bodily integrity. On the one hand, DNA evidence is considered an effective tool to achieve material truth in a case. However, on the other hand, taking samples without consent can violate the rights of individuals protected by law. This raises the question of how the balance between individual rights and the public interest or evidentiary needs in court can be maintained. [7, p. 57]

In Indonesia, the rules regarding DNA testing have not been fully regulated in detail in the law, especially regarding the legality of taking specimens without the consent of the sample owner. Law No. 17 of 2023 on Health and Law No. 27 of 2022 on Personal Data Protection, however, do not specifically mention DNA testing and the legality of sampling. Meanwhile, in the civil and criminal legal systems, provisions related to the collection of specimens for DNA testing without the consent of the sample owner are still a gray area that requires further study. [7]

In Indonesia's positive legal framework, the Criminal Procedure Code (KUHP) emphasizes that any evidence must be obtained legally and not violate a person's constitutional rights. [8] Although the KUHP regulates the evidence of expert testimony and letters, there is no explicit regulation regarding the collection of DNA specimens, especially in situations

without consent. This legal vacuum creates legal *uncertainty*, which is contrary to the principle of legal certainty, where the law should be certain as a measuring tool for the actions of parties.

From a civil law perspective, the act of taking specimens without permission can be qualified as a tort under Article 1365 of the Civil Code (KUHP), considering that there has been a violation of individual subjective rights, especially the right to privacy and bodily integrity. This is in line with the doctrine of legal protection which emphasizes that the law must be an instrument that protects humans from arbitrary actions. [9, pp. 2722-2731]

According to Suryo, DNA test results have several functions, namely to (1) identify genes; (2) determine the lineage between the child and his father and to convey information from one generation to the next; (3) regulate the development and metabolic processes of individuals; and (4) as a separate blood in chromosomes. [10, p. 72]

This issue becomes even more relevant in the context of Law Number 27 Year 2022 on Personal Data Protection, which classifies biometric data, including DNA, as specific personal data that requires strict legal protection. The principle of *explicit consent* in personal data management emphasizes that the collection and processing of DNA data cannot be done without the legal permission of the data owner.

Issues related to the need to obtain evidence in the justice system and the need to respect individual rights reflect the conflict between theories of substantive justice and theories of procedural justice. On the one hand, in order to achieve material truth, the collection of DNA specimens can be considered vital to uncover facts, on the other hand, the procedure for collecting evidence must still respect the principle of *due process of law* to avoid unconstitutional practices.

In the development of health law, the taking of body specimens or other medical actions without consent can only be justified in circumstances where the patient is incapacitated and requires emergency treatment, but there is no party who can be asked for consent (*vide*: Article 293 paragraph (9) of the Health Law). Without a clear legal and procedural basis, such actions run the risk of contradicting the principle of non-maleficence (*primum non nocere*), which is an ethical principle that obliges medical personnel not to cause harm or loss to the patient or subject concerned. [11, p. 5]

Protection of the rights to the body and privacy of individuals is not only guaranteed in national law, but also in international legal instruments that are morally and even legally binding for Indonesia. The Universal Declaration of Human Rights (UDHR) in Article 3 states that everyone has the right to life, liberty and security of person. The International Covenant on Civil and Political Rights (ICCPR), which Indonesia has ratified through Law Number 12 of 2005, affirms in Article 17 that no one shall be subjected to arbitrary or unlawful interference with his privacy, family, household or correspondence.

In the context of body specimen collection for DNA testing, intervention without a clear legal basis or without informed consent can qualify as a form of violation of the right to privacy as stipulated in these international human rights standards. This means that the state is obliged not only to establish legal regulations, but also to ensure that the implementation of specimen collection always respects the dignity and freedom of individuals.

By considering all of the above problems, it is very important to examine how the Indonesian legal system currently regulates the mechanism of taking DNA specimens without the permission of the sample owner, both in the context of formal and material evidence law in criminal, civil and other cases. Furthermore, it is necessary to formulate an ideal legal policy, which can balance the interests of protecting individual human rights and the need for legal proof, in order to realize a fair, humane, and legal certainty-based justice system.

Therefore, this research is crucial to analyze the legality of the review of specimen collection for DNA testing conducted without the consent of the sample owner, both in the context of criminal and civil law. By examining various legal aspects, including privacy rights, bodily integrity, and constitutional rights, it is hoped that this research can contribute to the development of a clearer and more comprehensive legal framework in Indonesia regarding the use of DNA tests in legal evidence. Based on this background, in this research, the author formulates the following problems: 1) How is the legal regulation related to the taking of specimens for DNA tests without the permission of the sample owner in the criminal law system in Indonesia?; and 2) What is the ideal legal policy to regulate the taking of DNA test specimens without ignoring the protection of individual human rights and the interests of legal evidence? With the research objectives, namely: 1) Analyzing legal arrangements related to the taking of specimens for DNA tests without the permission of the sample owner in the criminal and civil law systems in Indonesia; and 2) Analyze the ideal legal policy to regulate the taking of

DNA test specimens without neglecting the protection of individual human rights and the interests of legal proof.

2. Literature Review

2.1. Theory of Benefit

The utilitarianism school has the view that the purpose of law is to provide benefits to as many people as possible. Benefit here is defined as *happiness*, so that the assessment of whether the law is good or bad or fair depends on whether the law provides happiness to the community or not. [12, pp. 1-19] Thus, every preparation of legal products/legislation should pay attention to the purpose of law, which is to provide as much happiness as possible for the community.

The theory of expediency places the principle of "*the greatest happiness of the greatest number*" meaning the greatest happiness for the *greatest* number of people as the main measure in assessing the fairness of a legal action or policy. [13, pp. 169-185] In the context of this thesis, the principle of expediency serves as an instrument to assess when and within what limits the state can take DNA specimens, even without permission for the sake of the common good.

In many cases, the public interest of upholding justice, combating crime and protecting public safety must be considered alongside the protection of individual rights. The theory of expediency teaches the importance of morally calculating the positive and negative impacts of an action, and taking specimen samples for DNA testing is no exception. With reference to expediency theory, this thesis can build an argument that legal mechanisms that allow limited specimen collection are *justifiable*, provided they are designed to maximize public welfare and minimize abuse.

In this research, the theory of expediency is used as a *grand theory* because it is able to provide a strong philosophical basis in assessing the urgency of the presence of legal norms regulating specimen collection for DNA testing. This theory views that the law should aim to create the *greatest* benefit for as many people as possible (*the greatest happiness of the greatest number*). In the context of this thesis, legal expediency is drawn from efforts to balance between two common interests, namely the protection of individual rights to the body and legal proof in criminal and civil cases. Therefore, an ideal legal policy must be able to produce maximum social benefits, while remaining proportional in its implementation.

2.2 Theory of Legal Certainty

Legal certainty is one of the fundamental elements in a modern legal system. In a state of law (*rechtsstaat*), the existence of legal certainty is an absolute requirement so that the law can function as a tool for regulating social life, as well as providing protection for individual rights from potential arbitrariness. [14, pp. 13-22] Without legal certainty, justice and legal benefits cannot be realized effectively.

In the concept of *rechtsstaat* (state of law) introduced by Immanuel Kant and developed by Friedrich Julius Stahl, legal certainty occupies a central position. The rule of law requires 1) the supremacy of law over power; 2) the guarantee of human rights; 3) the limitation of government power through law; and 4) the existence of an independent judiciary. In this system, all actions of the state apparatus must be based on legitimate and measurable laws. [15, pp. 84-88] Legal certainty here serves to prevent arbitrary power and protect individual rights.

The discussion of legal certainty theory is important in the context of how the law should be designed, applied and enforced, especially in the context of new problems such as DNA specimen collection without consent in the Indonesian legal system.

In the context of evidence in the judicial process, especially in criminal and civil cases, legal certainty plays a vital role. Evidence must be obtained and used based on legal procedures to avoid violating the rights of the defendant or the parties. The use of DNA specimens as evidence without clear legal arrangements has the potential to violate the principle of legal certainty, because 1) the legal subject does not know the exact limits of the authorities' actions in taking body samples; 2) the absence of strictly regulated procedural standards creates room for biased interpretation; and 3) there is no guarantee of protection of individual privacy rights which leads to *injustice/remedies*.

In the Indonesian criminal law evidence system, based on Article 183 of the Criminal Procedure Code, evidence must be obtained legally, so that it can be used as evidence that can be considered by the Panel of Judges. DNA testing as evidence can help find material truth, but its collection must still be subject to the principle of procedural legality. Without an

adequate legal basis, DNA test results can be questioned for their validity and can even lead to the *exclusion* of this evidence in the judicial process (*Exclusionary Rules of Evidence*).

Legal certainty theory is used as a *middle range theory* because this theory can systematically explain how the law should function to provide clarity, stability and predictability for society. This theory asserts that a good law is one that can be known with certainty, applied consistently, and does not open up room for multiple interpretations. In the context of this thesis, the theory of legal certainty becomes an analytical framework to show that the absence of explicit regulation of body specimen collection for DNA testing has created uncertainty in practice, so that law enforcement officials, medical personnel, and citizens do not have a clear legal basis that can result in violations of individual rights. Therefore, this theory is used to emphasize the importance of establishing written norms and strict legal mechanisms to ensure the protection of rights and social order.

2.3 Legal Protection Theory

In the context of unauthorized DNA specimen collection, individuals are potentially harmed because 1) their body becomes the object of examination without consent; 2) their genetic data is accessed and analyzed without guarantees of personal control; and 3) potential misuse of data that has an impact on their legal and social lives. Legal protection theory serves as a theoretical foundation to assess that without a strong legal basis, such actions constitute an invasion of privacy that must be prevented/restricted through legal instruments/norms.

In the concept of *rechtsstaat* adopted by Indonesia, one of the main pillars is the protection of citizens' rights from arbitrary actions. The state is not only obliged to make laws, but also to ensure that these laws protect and respect individual rights. [16, pp. 133-154] The act of taking DNA specimens without legal procedures is contrary to this concept, as it violates the principles of legality and *due process of law*. Therefore, legal protection theory becomes very relevant to examine the legality of such actions, as well as to propose legal policy reforms that better ensure the protection of individual rights.

Legal protection not only includes prevention of rights violations, but also provides mechanisms for *remedies* in the event of violations. In the context of DNA making, the law must 1) provide the right for individuals to give informed consent; 2) provide a mechanism for resistance or objection if consent is not given; and 3) provide avenues for redress or rehabilitation if rights are violated. Thus, without adequate legal tools, individuals lose the assurance that their rights are respected and can be restored if violated.

In this research, legal protection theory becomes an *applied theory* because it directly provides a normative framework to respond to concrete legal problems, namely the legal vacuum regarding the taking of body specimens for DNA tests without the consent of the sample owner. This theory divides legal protection into preventive and repressive forms, so that it is very applicable in assessing the extent to which the state has or has not carried out its obligations in protecting individual rights to the body and privacy. In this context, preventive protection means that the presence of written law can prevent arbitrary actions, while repressive protection includes the existence of legal mechanisms to take action against violations and restore violated rights.

3. Proposed Method

Referring to the research title and the formulation of research problems that have been described, the type of research used in this research is normative research type. [17, pp. 46-58] Normative case studies are used in normative legal research to examine legal behavior products, such as statutory studies. The focus of the study is law understood as standards or regulations that govern society and guide individual behavior. [17]

Based on the explanation above, this type of research is Normative and uses a *Statute Approach*. The aim is to examine the legality of DNA sampling based on applicable law in Indonesia. Regarding the legality and procedures for using DNA testing as evidence in cases of biological father recognition of children out of wedlock, if the DNA source is obtained without the permission of the sample owner based on the applicable laws in Indonesia.

The approach used is the *statute approach*. [18, pp. 1-18] Normative research needs to use a *statute approach* because many legal regulations will be the subject of research and the main theme.

4. Results and Discussion

4.1. The Law on Taking Specimens for DNA Testing Without the Sample Owner's Authorization

In a modern legal system based on the principle of the rule of law (*rechtsstaat*), every action that touches the fundamental rights of individuals, including the collection of specimens for DNA testing purposes, must be subject to the principles of legality, protection of human rights, and legal procedures in accordance with applicable law. In Indonesia, the protection of the right to privacy and bodily integrity is guaranteed in Article 28G paragraph (1) of the 1945 Constitution of the Republic of Indonesia and affirmed in Law Number 39 of 1999 concerning Human Rights.

The collection of DNA specimens without the consent of the sample owner creates two dimensions of legal issues. First, in terms of human rights protection, such actions have the potential to violate the right to privacy and bodily integrity. Second, in terms of evidentiary law, the action raises questions about the validity of DNA test results as evidence in the judicial process.

In principle, the taking of biological samples, including DNA specimens, without consent is contrary to the principle of consensualism as outlined in *informed consent*, which is a requirement for obtaining medical treatment. In this context, in the absence of an explicit legal basis that allows specimen collection without consent, the action can be considered as an unlawful act.

In modern legal theory, the right to *bodily integrity* and the right to *privacy* are essential parts of human rights that must be guaranteed by the rule of law (*Rechtsstaat*). According to John Locke, the right to the body is a natural human right that cannot be taken away without legal basis and personal consent. [19, pp. 1-25]

John Rawls, in *A Theory of Justice*, asserts that every individual has rights that cannot be violated in favor of the majority, except through principles of justice that are fair to all parties. [20] The right to the body, including control over one's biological sample, is part of *basic liberties*.

In the context of taking body specimens for DNA testing without the consent of the sample owner, the theory of utilitarianism as proposed by Jeremy Bentham and John Stuart Mill which explains that the ideal law is a law that can produce the *greatest* benefits for the *greatest number* of people (*the greatest happiness of the greatest number*). With this perspective, legal action in the form of taking specimens without consent can be considered, if it actually makes a positive contribution to the interests of the wider community.

In the context of evidentiary law to display material truth, the expression of legal facts must not ignore the principle of human rights, because it has the potential to position humans as objects. [21] Although DNA testing is able to accurately display the truth, it must still be based on a valid basis, namely an adequate legal basis while respecting the limits of individual rights.

Legal theory provides a conceptual foundation for the need to respect bodily rights and individual privacy rights. In order for these values to be effectively implemented in legal practice, legal principles are needed that serve as guidelines in developing, interpreting and applying legal norms. Therefore, it is important to examine the legal principles that underlie the protection of bodily integrity and individual privacy.

The principle of legality (*nullum delictum nulla poena sine praevia lege poenali*) teaches that the actions of law enforcement must be based on applicable law. The act of taking specimens without a legal basis has the potential to violate the principle of legality as stipulated in Article 1 paragraph (1) of the Criminal Code. [22, pp. 293-305] Furthermore, Gustav Radbruch and Sudikno Mertokusumo have the view that the law must be compiled in writing, clear and strict. In the context of DNA specimen collection, the absence of explicit norms creates uncertainty for the community.

The principle of *Non Maleficence* in health law means that medical personnel or authorities must avoid actions that may harm the patient or the subject being examined. [23, pp. 23-36] Taking specimens without consent violates this principle unless it is done in emergency conditions under very strict conditions and continuous supervision.

The need to find material truth in the judicial process, especially in criminal cases or civil disputes related to blood relationship status, is often used as a reason to consider taking DNA specimens without consent. From the perspective of Jeremy Bentham's theory of expediency, such actions may be justified if the resulting social benefits (such as proving the material truth and upholding justice) outweigh the harm to individual rights. [24, pp. 269-293] However, the application of this principle must be done carefully and proportionally so as to violate the basic principles of human rights protection.

The process of evidence in criminal justice is fundamental to the continuity of a true and fair trial. The evidence contained in Article 184 of the Criminal Procedure Code is used as a guideline for judges in assessing the validity and strength of the evidence submitted during the trial process. [25, p. Alfitra] The importance of having a strong legal basis for the use of DNA tests is becoming increasingly clear, especially in the context of criminal investigations and investigations. DNA sampling is a crucial step in collecting evidence that can provide certainty and clarity in determining the truth of a case. However, the inability to take DNA samples without consent limits the capacity of law enforcement officials to conduct efficient and thorough investigations. [5]

The validity of DNA test evidence is very dependent on how to obtain the DNA sample, because it is in accordance with the *exclusionary rule* principle which if the evidence obtained by *unlawful* means (*unlawful evidence*), it can be declared invalid and should not be considered by the Panel of Judges. [26, pp. 101-122]

As taught in the *negatief wettelijke* theory, which is often implemented in Indonesia, judges are given freedom of belief in assessing at least two pieces of evidence as also stated in article 183 of the Criminal Procedure Code. [27, p. 254] The strength and assessment of evidence is contained in articles 185 to 189 of the Criminal Procedure Code. The strength of evidence or the effectiveness of evidence in a case depends on several factors. Call it a psychosocial factor (code of ethics, quality of law enforcement attitudes, and relationships with citizens and community participation). One of the functions of law, both as a rule and as an attitude of action or regular behavior is to guide human behavior so that it is also one of the scopes of study of law scientifically. [27]

DNA tests as evidence are generally included in two categories of evidence, namely expert testimony and letters, which are regulated in Article 184 of the Criminal Procedure Code. Based on this article, expert testimony (Article 184 Paragraph 1 b) and letters (Article 184 Paragraph 1 c) are one of the five legal evidences in criminal law. DNA technology is a technology that can detect a person's genetics and can produce genetic evidence that can be used effectively in criminal investigations. [27]

The science and technology referred to in the verse is the technology of checking or testing DNA (*Deoxyribonucleic Acid*) from one human to another. In its own terminology, what is meant by DNA is a chemical compound in the human body that has information or information in the form of genetics from special cells from one generation to the next. [28, p. 57] In short, DNA is a protein that carries hereditary traits. [29, p. 70] DNA can be found in the cell *nucleus* (nucleus) in the cell nucleus, DNA forms a single strand called chromosomes. [29] Each child will receive chromosomes from the father and half a pair of chromosomes from the mother, so that each individual carries traits that are inherited from both mother and father. [29, p. 71]

Regarding the proof of extra-marital children using the DNA test method, in Islamic law there are still many differences of opinion regarding its use as evidence in determining the marriage of extra-marital children to their biological fathers by major scholars. Because as we know, proof using science and technology such as DNA testing has not been stated in the Quran. In Indonesia itself, regarding the issuance of this Constitutional Court Decision related to the amendment and addition of Article 43 paragraph (1) of the Marriage Law regarding the position of married children, it certainly triggers a pro and con and raises various comments and controversies, where one side supports the decision and on the one hand there are still many who oppose it with various arguments such as sociology, humanity, philosophy or with verses in the holy book. [29, pp. 68-69]

Regarding proof through DNA testing can be said to be an authentic, absolute and irrefutable evidence of the truth, because DNA itself as we know is a collection of chromosomes or cells that store human genetic information, which information is hereditary and cannot change over time even though the person concerned smokes, drinks alcohol or so on. Therefore, with the rapid development of the times and the increasing number of both science and technology that has developed, of course to find out the blood relationship or determination of the lineage of a child with his biological father is no longer an impossible thing as it was in the days of the prophet and his companions. Thus it can be qiyaskan [29] that DNA testing is included in evidence in the form of qarinah, which is assumed that the qarinah has been stated in the Al-Quran and Hadith which is following or responsive to the times that continue to develop and advance so rapidly over time. [30, p. 18] This is in accordance with the rule of ushul fiqh which reads: "It cannot be denied that there is a change in a law because of a change in a period". [31, p. 107] With the existence of this ushul fiqh rule, indicates that there will definitely be a change of era or a change of time that will have a very big influence on the

applicable law (for example, the development of science and technology or new legal cases that will be faced), because no matter what the circumstances, the law must accommodate and be able to go hand in hand with the times in order to solve various kinds of problems in society. [31]

Regarding the DNA test on its existence as evidence to determine the nasab of an extra-marital child, it must be placed on the "maqasid ash-shariah", where the meaning of the rule concerned is: "every action depends on its purpose". [32, pp. 143-160] That when viewed from the content of the meaning of "maqasid ash-shariah" itself, in principle, is something that cannot be separated from the understanding or determination of matters related to human needs in the world as time goes by and the times change. The DNA test in the view of Islamic law is certainly a result of the development of human science and technology. As we know, even in Islam, a science or new things that bring benefits to its people are something that can certainly be appreciated and become an important thing for the progress of a people in the world. Because, the Prophet Muhammad himself once hinted at how important a science is, he said that: "Whoever wants life in the world and in the hereafter to be something good must be upheld with a science". [33, p. 264]

In line with research conducted by Agatha, et al (2021) on the Proof and Ratification of Extra-Marital Children and their Legal Effects after the Decision of the Constitutional Court Number 46 / PUU-VIII / 2010 in the View of Islamic Law. In this study, Agatha et al raised a case submitted by Hj. Aisya Mochtar or better known as Machica Mochtar where at that time her son Muhammad Iqbal Ramadhan was the child of her illegitimate marriage so that the child only had a civil relationship with his mother and his mother's family according to Article 43 paragraph (1). Proof of the child's biological father is done through a DNA test, to prove whether the man is the biological father of the child. With the DNA test, the status of the biological father can be proven because the DNA test stores all information about genetics in the human body.

Until now, Indonesia has not explicitly and comprehensively regulated the mechanism of specimen collection for DNA testing. However, there are several positive laws that indirectly regulate related aspects, namely:

- Constitution of the Republic of Indonesia Year 1945;
Article 28G paragraph (1) which explains "Everyone has the right to protection of self, family, honor, dignity, and property under their control, and is entitled to a sense of security ...". This means that the right to bodily integrity and privacy is protected by the constitution, so taking biological samples without permission violates this article.
- Law Number 8 of 1981 concerning Criminal Procedure;
Article 184 paragraph (1) of KUHAP which explains "valid evidence are: a) witness testimony; b) expert testimony; c) letters; d) clues; e) testimony of the defendant". DNA tests are generally categorized as expert testimony (scientific evidence) or letters. However, KUHAP does not regulate the mechanism of specimen collection procedures for DNA tests, so there is a legal vacuum regarding the procedure.
- Law No. 17 of 2023 on Health;
Article 293 paragraph (9) which explains, "In the event that the patient is incapacitated and requires emergency treatment, but there is no party who can be asked for consent, no consent is required". This means that in normal situations (not emergencies), specimen collection must have the patient's consent.
- Law Number 27 Year 2022 on Personal Data Protection;
Article 4 paragraph (2) letter b of the PDP Law explains that specific personal data includes biometric data. Furthermore, what is meant by "biometric data is data related to the physical, physiological, or behavioral characteristics of individuals that allow unit identification of individuals, such as facial images or dactyloscopy data. Biometric data also describes the uniqueness and/or characteristics of a person that must be maintained and cared for, including but not limited to fingerprint records, eye retina, and DNA samples". Since DNA is biometric data that is protected by law and is specific data, its collection, processing, and storage should only be done with explicit consent.
- Chief of Police Regulation Number 12 Year 2011 on Police Medicine; and
Article 6 letter e of Perkapolri 12/2011 explains that the capabilities of Dokpol include DNA Profiling, including: 1) determination of lineage; 2) identification; 3) forensic DNA;

and 4) DNA database. However, the Perkapolri *a quo* does not regulate in detail the specimen licensing procedure.

- Constitutional Court Decision Number 46/PUU-VIII/2010.

The rule in the Constitutional Court's decision *a quo* explains "Children born outside of marriage have a civil relationship with their mother and mother's family and with the man as the father who can be proven based on science and technology and / or other evidence according to the law has a blood relationship, including a civil relationship with the father's family". One of the science and technology that can prove the existence of a blood relationship is DNA testing. However, the Constitutional Court Decision *a quo* does not regulate the procedure for taking specimens for DNA tests.

Although various provisions in laws and regulations have regulated the right to the body, medical consent, and personal data protection, to date there are no positive legal norms in Indonesia that explicitly and in detail regulate the procedure for taking body specimens for DNA testing, especially in the context of criminal and civil procedural law. Provisions in Law Number 17 Year 2023 on Health, such as Article 293, only provide a general foundation regarding the need for consent in medical actions, but do not reach technical issues regarding specimen collection in legal situations. Similarly, the Personal Data Protection Law No. 27 of 2022 recognizes DNA as specific personal data, but does not stipulate a retrieval mechanism or legal limitations on its use in the legal evidentiary system. [34, pp. 65-76]

The absence of *lex specialis* norms has resulted in law enforcement officials, medical personnel, and parties involved in the evidentiary process not having definite procedural guidelines. In practice, this opens up space for the implementation of interpretative specimen collection, which is often carried out arbitrarily without a valid legal basis. As a result, there is great potential for violations of citizens' constitutional rights, especially the right to bodily protection, the right to privacy, and the right to *due process of law*. Therefore, this condition not only reflects the incompleteness of positive law, but also shows the urgency of establishing specific norms as a response to the increasingly complex development of forensic evidentiary technology. [35, pp. 331-355]

The absence of specific arrangements regarding DNA specimen collection procedures in KUHAP and other laws creates a legal *vacuum* (*rechtsvacuum*) which has the potential to weaken the protection of individual rights. In the theory of legal certainty as proposed by Gustav Radbruch and Jam Michael Otto, the vacuum of legal norms can cause uncertainty in the implementation of the law, which in turn weakens public confidence in the justice system.

From the perspective of legal utilitarian theory, the act of taking DNA samples without permission can be considered morally and legally, if it brings greater benefits to the public interest, such as revealing the perpetrators of serious crimes, saving victims, or preventing the repetition of criminal acts, it can be done. In this case, the utilitarian principle prioritizes collective interests and substantive justice over formal compliance. However, the application of legal expediency must not be carried out arbitrarily, there must be a strict supervision mechanism by relevant *stakeholders* that can test these actions, so as not to open the gap for abuse of power by law enforcement officials. Therefore, any policy that opens up opportunities for taking specimens without permission must go through strict, rational, and proportional justification, so that public expediency does not sacrifice individual justice.

By taking into account the theory, legal principles, applicable norms, and practical phenomena in the field, it can be concluded that the collection of specimens for DNA testing without the permission of the sample owner is still in an uncertain legal space. The absence of positive legal norms that explicitly regulate the mechanisms, conditions, and limits of DNA specimen collection has created a serious legal vacuum and has the potential to cause violations of human rights. The practice of taking without consent, without judicial supervision, and without protection of individual genetic data, clearly contradicts the principle of legality, the principle of protecting individual rights, and the principle of *due process of law*. Therefore, the state is obliged to immediately formulate legal policies that can provide legal certainty and proportional protection to citizens in the context of using forensic technology such as DNA testing.

Based on the analysis above, it can be juridically concluded that the collection of DNA specimens without the permission of the sample owner is an unlawful act, unless it is strictly regulated by law while still paying attention to the principles of proportionality and protection of human rights. For this reason, it is necessary to establish a new legal policy that balances the need for legal proof and protection of individual rights, in order to realize a justice system that is fair, humane, and based on the principle of legal certainty.

4.2. Ideal Legal Policy to Regulate the Collection of DNA Test Specimens

In a state of law (*rechtsstaat*), the law functions not only as a tool of social control, but also as the main instrument of human rights protection. The absence of explicit legal arrangements regarding the mechanism for taking body specimens for DNA testing without permission in Indonesia creates a space for legal uncertainty that can harm the basic rights of individuals. At the same time, the need for scientific proof, especially through DNA testing, is increasing in an effort to uphold material truth in legal cases. This situation requires the formulation of an ideal legal policy, which is able to balance the need for proof while maintaining and protecting the integrity of the body, privacy rights, and individual genetic data.

The development of an ideal legal policy for DNA specimen collection should be based on a strong foundation of legal theory. The theory of justice as formulated by John Rawls, teaches that justice must prioritize the protection of the basic rights of individuals, including the right to integrity and the right to privacy. [36, pp. 41-63] In this context, the state should not sacrifice individual freedoms just for the sake of efficiency or legal evidentiary interests.

In the perspective of benefit theory, law is categorized as ideal if it is able to produce concrete benefits for the wider community. In the context of DNA specimen collection, the action can be categorized as legally valid if it is based on a strong public interest and carried out through an accountable mechanism. Jeremy Bentham and John Stuart Mill, the two main figures of the theory of expediency, emphasized that the sacrifice of individual rights within proportional limits can be justified if it is able to produce a greater common good. In this context, legal arrangements that clearly regulate the procedures, limits and mechanisms for taking DNA specimens can provide legal certainty, so that a fair and transparent justice system is formed.

In addition, the theory of legal certainty developed by Gustav Radbruch emphasizes the importance of legal clarity, stability and predictability. In the context of DNA specimen collection, without a definite regulation, individual rights are vulnerable and the validity of the evidentiary process can be doubted.

In developing an ideal legal policy, it is necessary to consider fundamental legal principles. The principle of legality requires that every legal action must have a clear legal basis and must not be carried out arbitrarily. This implies that unauthorized body specimen collection must be regulated in detail in positive law.

Philosophically, law is not only seen as a collection of technical regulations, but also as an expression of human values rooted in moral and ethical principles. One important reflection in the regulation of DNA specimen collection is the recognition of the human body as an integral part of a person's dignity and personal integrity. This idea is in line with the thinking of Immanuel Kant, who emphasized that humans should be treated as an *end in themselves*, not as mere tools. [37, pp. 1011-1019] Therefore, any form of intervention against the body, including the taking of biological samples for DNA testing, must be carried out with full respect for individual will and autonomy.

In the realm of ethics, the principles of *respect for autonomy*, *non-maleficence*, *beneficence*, and *justice* are known, which are the main framework in biomedical ethics according to Beauchamp and Childress. [38, p. 22] The principle of *respect for autonomy* demands that individuals are given the freedom to determine what happens to their bodies, while *non-maleficence* requires that no harmful or harmful actions are taken. These principles provide a strong ethical basis for judging that the forced collection of DNA specimens, without a valid legal basis or without consent, is a serious violation of moral principles in the practice of law and health.

Legal philosopher Ronald Dworkin also emphasizes the importance of human *dignity* as the main pillar in legal morality. For him, a good law is one that respects an individual's right to live in accordance with his or her personal values. [39, pp. 269-308] In this context, the taking of body specimens without consent is not only an act against the law, but also a form of harassment of the noble values that the law itself is supposed to safeguard.

In Indonesia, the legal regulation governing consent in medical procedures (Article 293 of the Health Law) can be seen as a form of actualization of the ethical value of personal autonomy. However, the absence of explicit rules regarding the procedure of specimen collection for DNA testing - especially in a legal context - indicates a void of ethical reflection in national legal products. This is where the philosophy of law approach is important: that norm formation should not be separated from the values of justice, morality and humanity.

The principle of human rights protection must also be the main pillar, where bodily integrity, privacy rights, and individual genetic data are seen as fundamental rights that should not be reduced except through legal provisions that are legitimate, proportional, and necessary

with very strict conditions and continuous supervision. In addition, the principle of *due process of law* must ensure that the entire specimen collection process takes place in a fair, transparent, and testable manner.

The principle of proportionality is something that should be considered in regulating the collection of DNA specimens. This principle requires that any restrictions on the basic rights of individuals must be balanced, not excessive, and have a legitimate purpose. In the context of taking specimens for DNA testing without the consent of the specimen owner, the principle of proportionality demands that such measures are only taken when they are absolutely necessary and relevant to the evidentiary purpose, and there are no other less severe alternatives available. Otherwise, the action may qualify as a form of violation of the right to body and privacy guaranteed by the constitution.

It is also important to highlight the principle of personal autonomy as part of the principle of human rights protection. Personal autonomy refers to the ability of each individual to determine their own fate, choices, and decisions over their own body. This principle is the basis for the mechanism of giving consent to medical and forensic actions. If specimen collection is carried out without consent and outside the emergency conditions regulated by law, then the action violates the principle of personal autonomy and has the potential to injure the dignity of the individual.

Furthermore, the principle of protection of the physical integrity of the individual is a principle that guarantees that the human body cannot be subjected to intervention without a valid legal basis or without the consent of the individual concerned. This principle is born from the recognition that the body is the most private part of a human being that is attached to his or her dignity. Intervention into the body, including the taking of blood or DNA samples, can qualify as a form of human rights violation if done arbitrarily. This protection has a constitutional basis in Article 28G paragraph (1) of the 1945 Constitution of the Republic of Indonesia, as well as in Articles 9 and 29 of Law Number 39 of 1999 concerning Human Rights, which guarantees the right of every person to obtain protection for his or her personal self and bodily integrity.

Responding to legal issues related to the collection of specimens for DNA testing without the permission of the sample owner, it is necessary to formulate an ideal legal policy to overcome the legal vacuum (*rechtsvacuum*) and balance the need for proof and protection of human rights. The ideal legal policy must fulfill the principles of legal certainty, justice, expediency, and respect for the fundamental rights of individuals.

In the investigation process, finding the truth about an event involving humans is not a simple matter, because there is often a lack or incompleteness in evidence and testimony. The role of law enforcement officers is very important to determine the direction, purpose, and results of law enforcement. [40, p. 16-32]

The Criminal Procedure Code (KUHAP) authorizes investigators and presiding judges to request a Visum Et Repertum to bridge medical science with legal science so as to apply legal provisions to evidence. What needs to be underlined in Article 133 Paragraph (1) of the Criminal Procedure Code (KUHAP) only mentions the consequences of criminal acts, namely injury, poisoning or death, not mentioning the type of action. In the case of the victim who was found to be eight months pregnant, we can conclude that the alleged rape must have been committed at least eight months earlier. Therefore it is not possible to conduct a Visum et repertum. One of the things that can be done quickly and with accurate evidence is a DNA test by the victim and suspect.

The system of evidence in criminal law, based on Article 184 of the Criminal Procedure Code (KUHAP), describes clue evidence as indirect evidence. To make a conclusion about evidence, the judge must understand the interrelationship between evidence and make a wise decision in choosing relevant evidence. DNA testing, in this context, is not considered primary evidence, but serves as secondary evidence that reinforces other evidence. The evidentiary power of DNA tests is flexible, depending on the judgment of the judge who can determine whether to accept or reject the existence of such evidence. Therefore, the use of clue evidence, such as DNA tests, must be carried out by judges with caution because it is closely related to the dominant and subjective nature of judgment.

DNA testing has been proven to have a very high level of accuracy, even higher than conventional methods of proof such as witness testimony. Thus, judges no longer need to underestimate or ignore this DNA Test evidence. The use of DNA Tests as evidence is adapted to the system of the Criminal Procedure Code (KUHAP), which encourages judges to use discretion and accuracy based on their conscience in assessing clues, based on the

provisions listed in Article 188 Paragraph (3) of the Criminal Procedure Code (KUHP). [40, p. 37]

The theory of expediency asserts that the law must be able to function practically and efficiently in solving legal problems. For example, a regulation that allows specimen collection with court permission under certain conditions will provide great benefits in disclosing cases, without sacrificing basic rights. Thus, the theory of expediency can be used as a basis for assessing whether a policy is truly ideal, by seeing whether the real impact of the regulation is able to improve the welfare of the wider community.

Based on the above, the ideal legal policy regarding the collection of specimens for DNA testing should be built on the principle of consensualism as outlined in *informed consent* as the main standard. Any specimen collection must be preceded by providing complete information to the individual regarding the purpose, benefits, risks, and consequences of the collection, and obtaining written consent.

In situations where the individual refuses or is unable to give consent, specimen collection can only be carried out based on a written order from the court, after proportionate consideration. The aim is to prevent abuse of power and protect the rights of individuals.

Genetic data obtained from DNA testing should be treated as specific personal data that is kept strictly confidential. The use of such data should be limited to evidentiary purposes in the case in question and should not be used for any other purpose without new consent. In addition, there should be a mechanism for objection and remedy for individuals who feel their rights have been violated in this process.

Regulations related to the collection of DNA specimens must be formulated in writing in legislation, not only at the technical level, but at the level of nationally binding laws. The ideal legal policy at least contains the main elements, namely:

- Setting strict informed consent requirements;
Any DNA specimen collection must be based on the consent of the sample owner, except in exceptional circumstances that are strictly and limitatively regulated. Such consent must be given in writing after the individual has been adequately informed of the purpose, procedure, benefits, and risks of specimen collection.
- Exceptions in certain circumstances with strict limitations and continuous supervision;
In cases of urgent public interest, such as evidence in serious criminal cases or identification of disaster victims, the law should allow specimen collection without consent. However, it must go through an approval mechanism from relevant institutions, such as judicial authorization, to maintain the transparency and integrity of law enforcement and prevent abuse.
- Standard Operating Procedure (SOP) for sample collection and analysis;
Specimen collection procedures must be performed by skilled professionals based on strict ethical and scientific standards. This mechanism is important to maintain the validity of the test results as well as protect the rights of the subjects examined. Every procedure must be recorded, documented, and legally verifiable (*chain of custody*).
- Protection of DNA data as sensitive personal data;
Referring to the Personal Data Protection Law, DNA data is qualified as specific personal data and must be protected by the state. Therefore, the ideal legal policy must explicitly regulate the storage, management, use, and destruction of DNA test data.
- Implementation of sanctions against irregularities that harm the sample owner; and
To maintain the effectiveness of the norms, policies need to stipulate criminal, civil, or administrative sanctions for parties who commit deviations from the process of collecting or processing DNA specimen data without a valid permit. This sanction is a preventive instrument so that every action remains in the corridor.
- Education and socialization to law enforcement officials and medical personnel.
Regular training and thorough socialization to law enforcement officials, medical personnel and other relevant parties on legal and ethical standards in specimen collection are needed to ensure that human rights principles are upheld in practice.

5. Conclusions

Provisions in the Criminal Procedure Code and other regulations in Indonesia have not explicitly provided a legal basis for law enforcement officials to collect body specimens as part of scientific evidence in the process of investigating and prosecuting criminal cases. As a result,

it can lead to discretionary space or non-standardized practices that can violate human rights. In modern criminal law that upholds the protection of individual rights, it is fitting that every invasive action against the human body must be based on clear laws, be accountable, and be subject to supervisory mechanisms by the judiciary. Therefore, within the framework of legal protection and legal certainty, it can be concluded that the Indonesian criminal law system is still experiencing a legal vacuum regarding the mechanism for taking body specimens for DNA testing, which has an impact on the non-optimal protection of the legal subjects concerned.

Currently, there is no law that explicitly and in detail regulates DNA specimen collection, so to answer this void, an ideal legal policy is needed through the establishment of a Government Regulation that explicitly regulates the requirements for specimen collection. The ideal legal policy is not enough to stop at the normative level, but must be supported by the implementation of uniform standard operating procedures (SOPs) that bind all health service facilities, both public and private. This SOP should be a fixed guideline in medical and forensic practices involving biological specimens, so that there is no disparity in action in the field that can harm individual rights.

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