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THE ROLE OF FORENSIC LABORATORIES IN PROVING POISON MURDERS IN INDONESIA

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Abstract

Murder is a heinous crime that violates the law and threatens humanity. Murder can be committed in a variety of ways, one of which is through the use of poison. To solve a Poisoning Murder case, investigators must have a high level of expertise as well as the use of a Forensic Laboratory to examine scientific evidence. The murder of Wayan Mirna Salihin (Mirna) with Cyanide is one example. This study uses a Normative Legal Method that is bolstered by primary data analysis. The data used are Primary Data (Interviews) and Secondary Data (Legislation, Books, Journals, and Internet Sources). The obtained data is described using words based on scientific logic. The Mirna Cyanide murder case is so complicated that it necessitates the involvement of the Forensic Laboratory and forensic experts from various fields. Expert Testimony from Forensic Doctors, Forensic Toxicologists, and Forensic Digital Experts were obtained as part of the evidence. In this case, Expert Testimony is crucial in confirming the judge's conviction of the suspect who murdered Mirna. Jessica Kumala Wongso (Jessica) was eventually found guilty and sentenced to 20 years in prison by the judge. This emphasizes the importance of the Forensic Laboratory in proving Poison Murder cases.

Key words: Forensic Laboratory, Criminal Scene, Evidence, Expert Testimony, Poison Murders

INTRODUCTION

In Indonesia, the role of the Forensic Doctor as an expert in making decisions about forensic cases that arise is inextricably linked to the resolution of criminal cases. Forensic Doctors play an important role in the community because there are criminal cases that occur on a regular basis (Aflanie, Nirmalasari, & Arizal, 2017). Pickpocketing, mugging, rape, extortion, looting, robbery, persecution, and murder are all examples of crimes. Despite the fact that society produces a wide range of behaviors, certain aspects of it follow a consistent pattern (T. Santoso & Zulfa, 2014). This is possible because of a set of rules in place in society. As a result, crime is a human product in society. According to Adami Chazawi (2001), the most common crimes are crimes against the body and life. A crime against life (*Misdrijven Tegen het Leven*) is an attack on another person's life. Life is a legal right that must be safeguarded against criminal activity. Murder is a crime that goes against the rule of law while also attacking the human side of social

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life. Murder can be committed in a variety of ways, including stabbing with a knife, shooting with a firearm, poisoning food or drink, strangling the neck with a hand, and so on. To balance the progression of the crime mode, the investigator's expertise is required to prove a crime or crime that has occurred.

Wayan Mirna Salihin's (Mirna) murder is an example of a Poisoned Murder. Mirna's death is alleged to have been caused by one of her friends poisoning her by placing Cyanide into the Vietnamese Ice Coffee she was about to consume. The police suspected one of Mirna's friends, Jessica Kumalo Wongso (Jessica), of being the alleged perpetrator because she came to Mirna at the cafe at 14.00 WIB to make a reservation. He returned two hours later and ordered Mirna a Vietnamese Iced Coffee. Mirna arrived at the cafe at 17.00 WIB and drank the Vietnamese Ice Coffee that Jessica had ordered. Mirna was unconscious right away and died at the Abdi Waluyo Hospital at 21.00 WIB. Mirna was suspected of having Cyanide poisoning based on the postmortem results. The dangerous chemical was discovered in Mirna's body. The authorities finally labeled Jessica as a suspect based on the investigation's findings (A. Santoso, 2016).

The case can be exposed by the police team by investigating the evidence utilizing the forensic method at the crime scene. The victim's body and the objects around it were used as evidence by the police team as they processed the crime scene. Objects discovered at the crime scene can add to the suspicions in determining who committed the crime. In fact, the use of poison in murder is not a new phenomenon; it has been occurring since ancient times. In 19th century England, Western Europe, and the United States, the crime of poisoning sparked the development of Medicolegal, Forensic Toxicology, and other Forensic Science (Watson, 2020). In poisoning cases, forensic exams are separated into two categories: determining the cause of death (Cyanide poisoning, carbon monoxide poisoning, insecticide poisoning, and so on) and determining why the incident occurred (murder, road accidents, airline accidents, rape, and so on) (Aflanie et al., 2017). Cyanide poisoning, in particular, has a high risk of becoming life-threatening, necessitating a quick diagnosis by a doctor to save it (Baud, 2007; Cummings, 2004). As a result, the chances of someone being murdered by Cyanide poison are extremely high.

The fundamental goal of forensic evidence investigation is to discover the material reality of a criminal case so that mistakes in imposing a crime on a person can be avoided. According to Article 6 paragraph (2) (Law of the Republic of Indonesia No. 48 of 2009), a person cannot be convicted unless he is found guilty by a court based on legal evidence and there is a belief that he is accountable for the act he is accused of. As a result, the lawsuit settlement process must collect as much evidence and information as feasible. Valid evidence, according to article 184 paragraph (1) (Law of the Republic of Indonesia No. 8 of 1981), comprises witness statements, expert statements, letters, instructions, and comments from the defendant. A judge cannot impose a

criminal punishment unless there are at least two pieces of valid evidence and the judge believes the defendant has committed a crime.

According to Syaiful Bakhri (2015), expert witness as one of the legal evidence is a step forward in instances before courts. Expert Testimony emphasizes the relevance of specialists in presenting information based on their skills and knowledge in their domains. An expert in supplying knowledge does not need to directly witness or experience a criminal act as a regular witness. Expert Testimony is based on evidence in order to reach a conclusion on the cause and effect of a specific crime (Bakhri, 2015).

In order to reveal criminal cases, investigation in the study of the crime scene becomes extremely necessary. Handling that is good, precise, careful, and done in a professional manner is a phase that is expected to lead to the investigation's success (Idries, 1997). The involvement of Forensic Laboratories is equally critical in locating culprits and instilling judges' trust in future judicial judgements. As a result, it is critical to discuss the role of the Forensic Laboratory in order to understand how the processes and mechanisms work. Murder proof must be carried out in great detail, plainly, and transparently so that the police team can apprehend the actual perpetrator.

METHODOLOGY

This is a qualitative study that use the Normative Legal Method and is bolstered by primary data analysis. Normative Legal Method was used because this study examines the laws and regulations governing Forensic Laboratory. This research makes use of both primary and secondary data. Primary data was gathered through interviews with Mr. Irfan Rofik and Mr. I Made Wiranatha of the Police Headquarters' Forensic Laboratory Center, as well as direct observations at the Police Headquarters' Forensic Laboratory Center. Secondary data used is divided into three categories, primary legal materials (Legislation), secondary legal materials (Books and Journals), and tertiary legal materials (Online Newspapers and the Internet) (Soekanto & Mamuji, 2003). The obtained data is described using words based on scientific logic.

This study consists of several steps, the first of which is formulating the problems that will be discussed in this study. Second, determine the relevant laws and regulations, such as the Criminal Code, Law Number 8 of 1981 concerning the Criminal Procedure Code, Law Number 48 of 2009 concerning Judicial Power, Regulation of the Chief of the Police of the Republic of Indonesia Number 10 of 2009 concerning Procedures and Requirements for Requests for a Criminal Technical Examination at the Place of Case Incident and the Laboratory of Criminal Evidence for the Forensic Laboratory of the State Police of the Republic of Indonesia and Regulation of the Chief of the Police of the Republic of Indonesia Number 12 of 2011 concerning Police Medicine. In addition to the rule of law, reference books and journals relevant to this

research, as well as other internet sources, were gathered. Third, conducting interviews with representatives from the National Police Headquarters' Forensic Laboratory Center to learn more about the role of the Forensic Laboratory in proving a criminal case. Fourth, analyzing each statutory regulation, legal theories, and synchronizing with the findings of the interviews.

RESULTS AND DISCUSSION

1. Forensic Medicine

Many countries use the term Forensic Medicine, including Indonesia, Belgium, the Netherlands, France, Germany, Sweden, Australia, Egypt, Saudi Arabia, Iran, Turkey, Bangladesh, Japan, China, and Norway. There are some countries that use the terms Legal Medicine, Medical Jurisprudence, and Medico-Legal Services instead of this term (Meilia, Freeman, Herkutanto, & Zeegers, 2018). Forensic Medicine, also known as Legal Medicine is a specialty of medicine that studies the application of medical science to law enforcement and justice (Aflanie et al., 2017). According to R. Abdussalam (2006), Forensic Medicine is a branch of medicine that applies medical and paramedical knowledge to the resolution of cases in court (*Pro Justitia*). Furthermore, Danny Wiradharma explained that Forensic Medicine is a medical discipline in which certain evidence cannot be brought to court, so the doctor creates a *Visum et Repertum* as a substitute (Wiradharma, 2010).

In general, Forensic Medicine is divided into three categories: Forensic Pathology, Clinical Forensic Science, and Forensic Laboratory Science (Aflanie et al., 2017). Forensic Medicine is a multidisciplinary field that collaborates closely with other fields such as toxicology, biology, psychiatry, genetics, and forensic chemistry. In any discipline, Forensic Science is very open to collaboration and benefiting from new emerging technologies (AKÇAN, TAŞTEKİN, YILDIRIM, AYDOĞAN, & SAĞLAM, 2020). As a result, Forensic Medicine's scientific development is very dynamic in following the progression of crimes that occur, and it will be very useful in law enforcement. According to Abdul Mun'im Idries (2009), the main function of Forensic Medicine and the law enforcement process is to assist the law enforcement process, particularly in criminal cases involving the body, health, and human life. This law enforcement process is a scientific endeavor, not just common sense or non-scientific.

Forensic Medicine is critical in resolving criminal cases involving human bodies, health, and life, such as murder, abuse, sexual crimes, domestic violence, child abuse and neglect, divorce disputes, insurance fraud and abuse, violations of human rights, and all actions that cause death or injury (Sampurna, Samsu, & Siswaja, 2008). According to Abdul Mun'im Idries (2013), the goal of Forensic Medicine is to gather evidence (dead or alive victim; victim or suspect of a crime). The examination is done at the request of the investigator in order to find objective facts based

on logic, which is a Forensic Doctor's working principle. Case disclosure can then be done in a transparent manner, which benefits society. As a result, the goals of Forensic Medicine differ significantly from those of other medical sciences, which aim to cure (reduce pain).

2. The Role of Forensic Medicine

In order to obtain clarity and the complete material truth of a criminal act that has occurred, Forensic Medicine in the form of *Visum et Repertum*, as well as the assistance of doctors with their knowledge, is required (Idries & Tjiptomartono, 2011). The doctor's statement can later be used as legal evidence to aid in the conclusion of the investigation. In Forensic Medicine, there are limitations to be faced, such as the time factor, which can affect the results of the examination, damaged/lost evidence, scientific limitations in assisting investigations, or the nature of humans, who can make mistakes. Apart from that, Forensic Medicine is extremely helpful in the investigation of homicide cases, which will eventually result in Expert Testimony (*Visum et Repertum*). The following are some of the applications of Forensic Medicine.

a. Determine the Victim's Exact Cause of Death;

Knowing about signs of life, signs of death, and other changes that occur in the corpse requires determining the victim's death. Three things can be used to detect signs of life (Idries & Tjiptomartono, 2011): First, the presence of respiratory movements, which can be seen in the upper abdominal area, right where the two rib arches meet (epigastric area). Second, a palpable pulse is one that can be felt in the neck and wrist. Third, when a living person's eyes are illuminated, reflexes such as eye reflexes to light cause his pupils or eyes to shrink. Meanwhile, important signs of death include a cessation in heart rate, a cessation in respiratory movements, pale skin, and muscle relaxation, as well as a cessation in brain activity (Idries & Tjiptomartono, 2011).

b. Estimating the Time of Death;

Until now, it has not been possible to determine the time of death of the victim, so doctors can only estimate the time of death. To be able to estimate the time of death, careful observation, recording, and interpretation are required, particularly of subsequent changes in the corpse (Idries & Tjiptomartono, 2011). Investigators can narrow down the list of suspects based on the estimated time of death, which was originally based on a list based on determining the identity of the victim, namely by studying the suspects' alibis. The benefit obtained is that the investigation conducted will be more narrowed and focused (Idries, 2009).

c. Determine Identity;

Determining the identity of the victim, as well as the identity of the suspected perpetrator of a crime, is an important part of the investigation. By correctly determining the identity, mistakes in the judicial process with fatal consequences can be avoided (Idries, 2009). Visual identification, documents, jewelry, clothing, medical, dental, fingerprints, serology, and exclusion are nine methods for determining the victim's identity. The criteria used include a minimum of two methods, such as primary clothing identification and confirmatory medical identification.

d. Determine the Cause of Death;

Depending on the case, a post-mortem (autopsy) is required to determine the exact cause of death, with or without additional examinations such as toxicological examinations, bacteriological examinations, and so on (Idries & Tjiptomartono, 2011).

e. Determine the Victim's Cause of Death or Estimate the Victim's Cause of Death.

Determining or predicting the manner of death will assist investigators in determining what steps should be taken (Idries, 2009). There are three (three) ways of death in Forensic Medicine that should not always be interpreted in terms and meanings found in the applicable law (Idries & Tjiptomartono, 2011). First, Reasonable (natural death) refers to a victim's death as a result of disease rather than violence or involuntary death (death due to heart disease, due to cerebral hemorrhage, due to tuberculosis, and so on). Second, Unnatural death, which can be classified as accidents, suicides, or murders. Third, Undetermined because the corpse's condition has been so damaged or rotten that neither the wound nor the disease can be seen or found again.

The systems and services provided by Forensic Medicine are generally divided into two categories (Meilia et al., 2018). First, a type of integrated service in which forensic medical practitioners investigate deaths and injuries related to suspected criminal acts, including performing medico-legal autopsies and examining living victims of physical and sexual violence. Second, the type of service is divided, namely the service that divides the tasks assigned by one practitioner in an integrated system handled by several different practitioners in Forensic Medicine. A general practitioner, police surgeon, or other relevant medical specialist performs a clinical forensic medical examination. In the context of the judicial process, forensic specialists can assist with examinations at the scene of a crime and examinations of injured victims (Ohoiwutun, 2016). If someone has died at the scene of a crime, an examination is conducted with the goal of determining the type of death and the causes of death.

The process of scientifically identifying dead victims in accordance with Interpol standards so that they can be legally identified is known as Disaster Victim Identification (DVI) (*Regulation of the Chief of Police of the Republic of Indonesia Number 12 of 2011*). The authorities frequently

request this examination in order to determine whether or not the case should be processed in accordance with the law. Before the body is buried, the doctor will make a *Visum et Repertum*. Meanwhile, the injured victim is examined to see if there has been abuse, if there has been a crime or a violation of decency, to determine a person's age, or to determine the certainty of a baby who died in his mother's womb. This will later be used to determine whether or not there is a violation of articles 352, 351, 285, 292, 341, 342, 288, and 44 (Indonesian Criminal Code). *Visum et Repertum* is classified into six types: *Visum et Repertum* for living people, *Visum et Repertum* for dead people (corpses), *Visum et Repertum* for Cases (crime scene), *Visum et Repertum* for exhumation, *Visum et Repertum* for psychiatry, and *Visum et Repertum* for evidence (Trisnadi, 2013).

3. Forensic Laboratory

The definition of the National Police Forensic Laboratory is regulated in Article 1 point 2 (*Regulation of the Chief of Police of the Republic of Indonesia Number 10 of 2009*) which states "Polri Forensic Laboratory, hereinafter abbreviated as Labfor Polri, is a National Police work unit covering the Central Forensic Laboratory and Branch Forensic Laboratory in charge of fostering and carrying out the functions of the Forensic/Criminalistic Laboratory in the context of supporting investigations carried out by regional units". Furthermore, in article 2 paragraph (2) (*Regulation of the Chief of Police of the Republic of Indonesia Number 10 of 2009*) state the purpose of the request for the National Police Lab to examine an item of evidence in order to scientifically prove it. Scientific crime investigation (SCI) is one step in uncovering cases involving science and technology (Admin Polri, 2019). This is inextricably linked to the rise of various crimes, such as bombings, narcotics, poisoning, murder, and so on.

The Forensic Laboratory is critical in the investigation of crimes through the examination of evidence. In criminal cases involving the body, health, and human life, especially judicial medicine is used to find out and assist the investigation process (Idries & Tjiptomartono, 2011). The Forensic Laboratory assists investigators in two ways: by providing crime scene technical examination services and by conducting criminalistic laboratory examinations of evidence. Article 1, paragraph 7 (*Regulation of the Chief of Police of the Republic of Indonesia Number 10 of 2009*), states "Criminal laboratory examination of evidence is an examination of evidence obtained from searching, retrieval, confiscation, securing and dispatching Polri officers or other law enforcement agencies, which are carried out using scientific methods at the Polri Labfor, so that the evidence that has been examined can be used as one of the legal evidence."

Law enforcement and the general public who require examination services/public services to obtain a sense of justice and/or other purposes will benefit greatly from Forensic Laboratories. A Forensic Laboratory is desperately needed, especially for police officers conducting

investigations and/or investigations, to uncover certain cases as a form of scientific crime investigation (Wahyuni, 2014). The Forensic Laboratory has a variety of fields that can conduct examinations based on the needs of the investigation. The Forensic Laboratory's tasks include document and counterfeit money examinations, ballistics and forensic metallurgy examinations, physics and computer forensics examinations, chemistry, toxicology, and forensic biology examinations, and narcotics, psychotropics, and forensic dangerous drugs examinations (Rachmad, 2019). The evidence examined in the Forensic Laboratory will be tailored to the fields in which it will be used. Investigations that use science as a guide will yield accurate, detailed, and precise results. (Wahyuni, 2014).

4. Investigate Evidence at the Crime Scene

The crime scene is a location where evidence or victims of a crime can be found, even if it is later proven that there was never a crime there (Aflanie et al., 2017). Article 1 point (4) (*Regulation of the Chief of Police of the Republic of Indonesia Number 10 of 2009*), states "Case Incident is a place where a criminal act is committed or occurs and other places where the suspect and/or victim and/or evidence related to the crime can be found. In order for investigators to be successful in making clear cases at hand, the investigation of the crime scene to reveal a criminal case involving human life must be handled properly, accurately, carefully, and professionally (Idries, 1997).

Investigators at the crime scene must regard the date and time of arrival, the name of the person at the crime scene upon arrival, weather conditions, lighting conditions at night, incidents that occurred, activities after the incident, the officer in charge of the case, and security guard scenes at the scene, and on-site assistance, as well as other resources that have been requested (Aflanie et al., 2017). Irfan Rofik (Interview, 21 October 2019) stated that investigators in carrying out Case Investigations refer to the Implementation Instructions of the Indonesian National Police with police number 04/I/1982. The steps taken include:

- a. Correct and professional processing of the crime scene in accordance with the working order that has been adjusted to the operational guidelines and technical guidelines;
- b. General observations;
- c. General photography;
- d. Close-up photography of the items found at the crime scene;
- e. Carefully and correctly taking evidence related to the crime scene;
- f. Conducting crime scene investigations with the goal of narrowing the investigation space of the Case Investigation Unit in order to solve the case;
- g. Seeking witness testimony from people who truly understand the crime's circumstances;

- h. Interrogating victims, perpetrators, and their families; and
- i. Creating a Police Investigation Report as soon as possible.

Investigators rely heavily on the presence of a doctor at a crime scene to help them solve cases using Forensic Science. All doctors can act as examiners at a crime scene examination, but with the advancement of specialization in medical science, it is preferable to have a Forensic Doctor or a Police Doctor present (Aflanie et al., 2017). The Police Doctor is in charge of the medical aspect of the crime scene, which includes conducting an initial examination of the victim at the scene as well as handling non-medical evidence attached to the victim's body and medical evidence (*Regulation of the Chief of Police of the Republic of Indonesia Number 12 of 2011*). To ensure that the circumstances of the crime scene do not change, the examination must comply with the generally accepted provisions of the investigation at the crime scene. All evidence discovered at the crime scene is then transported to the Forensic Laboratory after being secured in accordance with procedures (Aflanie et al., 2017). According to Locard's principle, any physical contact between two objects results in a mark being left on each of the two objects. In the case of a criminal act, this principle results in a link between the three pieces of evidence, giving rise to the concept of the "triangle of evidence" schematically (Aflanie et al., 2017). The evidence triangle is a triangle formed as a result of the reciprocal relationship (interrelation) that existed at the time of the crime between the victim, the perpetrator, and the tool (each of which is a corner of a triangle). A crime scene is located in the triangle's center, and it is linked to the three pieces of evidence (Aflanie et al., 2017).

Sumy Hastry Purwanti (2014) argues, initial protection at a crime scene must begin with the arrival of the first police officer on the scene and end when the suspect is released from the police stage. The goal of crime scene protection is to ensure that no one enters the crime scene and intentionally or unintentionally destroys important clues. Evidence or clues are critical in resolving cases that arise. The officer or investigator must also be cautious of himself and everyone else on the team because anyone can add materials such as cigarette butts, sticks, boxes, wrappers, and so on. Furthermore, investigators are not permitted to make fingerprints, toe prints, or record shoes at the scene. Following the initial assessment, investigators must call in experts such as forensic experts, fingerprint experts, photographers, medico-legal experts, ballistics experts, bomb disposal experts, and other specialists to the scene as needed (Purwanti, 2014).

All parties involved in the initial examination of the scene must not change or damage the conditions at the scene in order for the evidence to not disappear or become blurred. This prevents fingerprints, footprints, blood spots, sperm, hair, and other identifying features from being erased or lost (Hamzah, 2016). The scene must be photographed or videotaped in order to

be preserved. As the adage goes in the medical and judicial sciences, "touch as little as possible and displace nothing" is required when conducting an examination at the scene (Hamzah, 2016). According to Andi Hamzah, the investigation was carried out at the scene because there was a crime involving death, sexual crimes, theft, and robbery. The doctor will conduct an examination at the scene in the event of a death and/or sexual crime, as specified in Article 7 (Law of the Republic of Indonesia Number 8 of 1981). Article 224 (Indonesian Criminal Code) expressly forbids a doctor from refusing to conduct an examination and then testifying as an expert witness. The doctor's examination of the victim at the crime scene aims to obtain accurate data in a short amount of time and conduct several field tests that are useful for investigators in determining the proper steps to take in order to make a criminal case involving the human body clear. (Idries, 1997).

5. The Role of Forensic Laboratory Examination as Evidence

The Forensic Laboratory is an important part of the Indonesian Criminal Procedure Code because it assists the police with technical aspects of criminal investigations. The Forensic Laboratory aids in the investigation of cases and the scientific examination of evidence. Forensic Laboratories are extremely helpful in locating and identifying evidence recovered from the scene of the crime, the victim's location, and the perpetrator's location. According to I Made Wiranatha (Interview, 21 October 2019), There are two steps for implementing the Case Study in the case of a homicide that has occurred. First, handle the Case's Place of Case by taking the First Action at the Case's Place of Case. Actions that must be taken immediately are to provide assistance or protection to the victim, install a police line, and secure the crime scene for further investigation. Second, complete the processing of the Case Location. This activity is carried out following the first action, which is to search for, collect, evaluate, and analyze clues, information, and evidence, as well as the identity of the suspect, in order to provide instructions for further investigations.

Article 133 (Law of the Republic of Indonesia Number 8 of 1981) emphasizes the importance of Expert Testimony in assisting the investigation of an event that is suspected to be a criminal act resulting in injury, poisoning, or death. In order to conduct an investigation, the investigator must submit a request for Expert Testimony to a medical expert of the judiciary, a doctor, or another expert. For wound examination or post-mortem examination, expert statements must be in writing and clearly stated. Bodies sent to Forensic Doctors must be treated with respect and for the corpse's sake, and must be labeled with the corpse's identity, which is done with a position stamp attached to the big toe or another part of the body. A post-mortem examination is a method of bolstering evidence in the course of an investigation. Only a portion of the organs suspected of having a link to the victim's death were subjected to autopsies (Sagai, 2017).

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In order to properly examine the evidence sent by the investigator, the Forensic Doctor must be able to position himself. Here, Forensic Doctors are called in as expert witnesses to assess a criminal act that has occurred. Consider the case of Mirna's murder, which occurred as a result of Jessica's poisoning her drink. Mirna's body was examined by Forensic Doctors to determine the cause of her death. Despite the fact that the doctor was not present at the time of the incident because he was not an eye witness, the doctor was able to determine what type of poison was used and how much poison was used. The Forensic Doctor then acts as an expert witness, providing information to aid the investigation.

For the benefit of the court, the Forensic Doctor's Expert Testimony contains what was seen and found on the victim (Abdussalam, 2006). Although the term *Visum et Repertum* does not appear in the Criminal Procedure Code, the terms used are expert opinions. The doctor will first perform surgery on certain organs in the corpse's body before issuing a written statement. Doctors would be unable to determine the exact cause of his death if this was not done. The cause of death of the corpse must be stated clearly in the Expert Testimony. All preservatives used on corpses must be included in the statement that the poison in the corpse's body does not come from the preservatives used as a comparison material. Formalin is not allowed to be used as a preservative on corpses in a toxicology examination because it reacts with a variety of poisons (Mahesti & Yulianingsih, 2020). When it comes to proving a criminal case involving the human body and life, *Visum et Repertum* is critical. The evidence in question is an attempt to obtain information through evidence and evidence gathered during a crime scene investigation.

Indeed, the post-mortem examination in the Mirna murder case was carried out in order to complete the series of instructions obtained. The existence of Cyanide in Jessica's Vietnamese Iced Coffee was the first hint (Sagai, 2017). Various forensic experts in their respective fields are needed for the investigation into the Mirna murder case. An expert in forensic chemistry is required to determine the toxic content of the ordered Vietnamese Iced Coffee. A Forensic Doctor and a Forensic Toxicologist are required to examine the corpse and the effects of the chemicals that enter the body. The goal of forensic toxicologists' investigations in cases of poisoning death is to reconstruct the events that occurred and determine to what extent the poison that enters the body can cause death (Wirasuta, 2008). A competent analyst and the ability to predict the likely individual response to poison concentrations are required of the forensic toxicologist. The pharmacokinetic information is used by the Forensic Toxicologist to help interpret the results and reach a conclusion when necessary (Osselton, 1992). According to Budiawan (a toxicologist) during the trial of the Mirna murder case, a toxicologist studies how a substance is in the body to affect the internal tissues of the victim, whereas a team of Forensic Doctors is responsible for determining the cause of death of the victim during the investigation process (Aryanto, 2016). In addition, experts in the field of Digital Forensics are required for CCTV inspection at the crime

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scene. This is to establish the existence of an electronic file that has been designated as digital evidence (Khairunnisak, Ashari, & Kuncoro, 2020). Any evidence and instructions will be used as evidence in court.

All evidence and instructions gathered are solely for the purpose of carrying out the Criminal Procedure Code's purpose, which is to seek out and obtain, or at the very least approach, the material truth. A judge will then conduct the examination and make the decision in court. The judge then decides whether or not a suspect is at fault, based on the evidence and instructions, and whether or not an act has been charged against the suspect (Hamzah, 2016; Mulyadi, 2012). The greater the amount of evidence presented, the more material truth will be guaranteed. Mirna's death case is extremely difficult to determine the killer based on the applicable law, despite the fact that it has been examined by a number of forensic experts. This is based on the lack of direct evidence that Jessica poured Cyanide into Mirna's Iced Coffee. As a result, the final decision is left to the judge's conviction based on the information provided by the forensic expert and other evidence pointing to the suspect in Mirna's murder. In order to find and defend the truth, judges must be acutely aware of the importance of evidence discovered during the examination and carefully assess and consider its strength (Nugroho, 2017).

With no evidence of an act of entering poison or poisoning the victim with Cyanide, the chain of events points to an act that resulted in death (Nizar, Amiruddin, & Sabardi, 2019). Judges' decisions must truly connect events to existing evidence and facts, allowing the judge's logic and legal reasoning to reach a just conclusion through a series of events (Nizar et al., 2019). Judges can use the results of forensic experts' analysis as a guide to make decisions based on their own beliefs. Expert Testimony has been restricted in the Act as one of the types of evidence that can be used as a guide for a judge's decision in a case. This is known as the Proofing System according to the Law in a Negative Manner, which combines the evidentiary system according to the Law in a Positive Manner (based on the rule of law) with the Evidence System based on the Judge's Conviction (Gunawan & Harahap, 2020). The judge believed that just one sip of Mirna's Vietnamese Iced Coffee was enough to kill him. In accordance with the Public Prosecutor's demands, a panel of judges at the Central Jakarta District Court sentenced Jessica to 20 years in prison (Butt, 2021).

CONCLUSION

The Forensic Laboratory plays a critical role in assisting investigators in the discovery of new evidence. The disclosure of murder cases involving poison is frequently very complex, necessitating the use of multiple forensic experts to assist with the investigation. The victim's body, which will be subjected to a post-mortem examination by a Forensic Doctor to determine the time of death, cause of death, and manner of death, is one of the most important pieces of

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evidence. When it comes to killing with poison, a Toxicologist is required to examine the extent to which the poison affects the victim's internal organs. Expert Testimony from Forensic Doctors and toxicologists will be used in place of the victim's body, which will be impossible to bring to court. Forensic experts must possess knowledge, expertise, and accuracy in order to provide Expert Testimony. As in the case of Mirna's murder with Cyanide poison, Expert Testimony is used as evidence to strengthen the judge's belief that Jessica murdered Mirna. The Forensic Laboratory serves as a link to the common thread that was broken during the search for the Mirna Murder suspect in this case.

As a result, Forensic Laboratories must be expanded throughout Indonesia, owing to their critical role in proving murder cases involving poison (in particular) and other types of murders (in general). This must be strengthened by increasing the number of prospective forensic experts and improving their knowledge so that they can be distributed evenly throughout Indonesia. Another area that needs to be strengthened is on the normative side, with the renewal of existing legal rules. Until now, the legal basis for forensics has been based on the Criminal Code, Criminal Procedure Code, or the Head of the Indonesian National Police's Regulation. Legal regulations pertaining to Forensic Science and Forensic Laboratories must be emphasized in separate laws to support their legal force, effectiveness, and flexibility in their implementation. Another important improvement is judges' ability to apply logic and legal reasoning. The goal is for the judge to have a thorough understanding of the sequence of events that occurred in relation to the evidence and instructions available. All of the above will have an impact on the judicial process in the Indonesian justice system.

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