

# A Forensic Anthropological Analysis on The Consumption of Forensic Science Methods Utilized to Detect Homicides Along with Sharp Weapons (With Special Reference to Court Records)

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## ***Abstract***

*Crime is a common phenomenon in an organized society. Among the crimes, we identify as homicide is the unlawful premeditated murder of a person. Today, the criminal and the crime are meticulous. As a result, finding the culprit has become a complex issue. Undisclosed information about a crime is revealed through a criminal investigation. The methods used to uncover criminal information in criminal investigations are called forensic tactics. Methods in forensic science are used to uncover murder crimes. This research focuses on homicide crimes with sharp weapons. Accordingly, how can forensic techniques be used to examine murders committed with sharp weapons and to uncover information such as the weapon used in the murder? how the murder was committed? and the person who committed the murder? can be mentioned as the problem(s) of the research. The Monaragala High Court is the study institute used to compile the case reports related to the study. This research is a detailed study based on secondary data. Out of these case reports, from 2008 to 2016, 13 investigated murder reports were applied to accomplish the objectives. Case studies were used as a data collecting tool to detect the records. The interview method was also used partly in collecting data relevant to this study. Although many methods such as DNA technology, pollen analysis, and microscopic testing are utilized to detect homicides at an advanced level around the world, research reveals that traditional methods are still used in Sri Lanka. Accordingly, it is important to use the latest technology in Sri Lanka to bring criminals to justice and eradicate them from the criminal community.*

**Keywords:** *forensic, scientific methods, sharp weapons, crime, murder*

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## **Introduction**

Forensic anthropology can be categorized as a subfield of physical anthropology which was emerged in the 1940s. During that period, law enforcement agencies extended an open invitation to physical anthropologists. That is, they come to identify the skeletal remains found in the criminal cases that they encounter. Thus, forensic anthropology is the process of scientifically analyzing the physical evidence obtained from one's observations of crime and providing it for the resolution of crimes. This physical evidence is obtained from the crime scene, the perpetrator, and the suspects. Based on this evidence, the focus will be on identifying the person who died, identifying the person who committed the crime, finding out the cause of death, as well as the time of death. Able to explain the crime is not just a case of a dead body found, although evidence of the crime is uncovered when bone without soft parts is found.

Weapons can be classified according to the nature of the weapon and the force exerted on it. There are reports of all kinds of weapons being used to kill people, as well as instances where they have been used. This research report focuses on how forensic scientific methods, which are theoretically studied under forensic anthropology, a subfield of such valuable physical anthropology, can be used to diagnose homicides with sharp weapons.

This research focuses on the crimes committed by sharp weapons. It examines how such forensic techniques are used to observe such crimes and find out the evidence in them, and based on that evidence, all the information related to the crime, such as the weapon used in the murder, how the murder was committed, and the person who committed the murder.

The main purpose of this is to study the practical application of forensic methods studied theoretically under forensic anthropology. Specific objectives of this study are injuries are a major cause of homicide. To gain an understanding of the injuries that sharp weapons can inflict on a person's death and their nature, To study how an

injury caused by a sharp weapon can affect a person's demise, and recognize the responsibilities of the forensic pathologist as well as the study of weapons.

The theoretical significance of this research is that it will be possible to examine the need for forensic methods to detect murders, to identify certified weapons, and to study extensively the nature of the injuries that can result from such weapons. It is of practical importance for a researcher who hopes to do further research on this to be able to use this study. This research will be important in the formulation of policies on the development of forensic science under criminal investigation.

### **Material & Methodology**

The Monaragala High Court in the Monaragala District of the Uva Province was used as the study area for this research. The population of Monaragala District was 448,194. The case reports obtained from the High Court for carrying out this research have been analyzed from a scientific point of view. This research is a detailed study based on secondary data. Accordingly, the cases related to the murders committed with weapons in the Monaragala High Court were used for this purpose. Considering the contents of those case reports, much attention was paid here to the doctor's testimony. This is because all the information in the doctor's testimony is scientifically very accurate. Out of these case reports, all the final case reports examined from 2008 to 2016 were used for fulfilling the data collection. Accordingly, the number of research samples had to be limited to the 13 cases only. The main reasons for this were the inconvenience of obtaining the information as the case records of the years before 2008 and also it is difficult to obtain pending case records, due to the legal impossibility of court rules.

The interview method was also used partly in collecting data relevant to this study. Further, several officials who have the knowledge and understand of the field were also interviewed, namely, as the Chief Registrar, Attorney-at-Law, and the record keeper. A structured questionnaire was not used, and unstructured interviews were conducted.

Case studies were utilized during this research as a tool to fulfil the research objectives. Accordingly, to examine the contents of each case record and make a clear and simple analysis or description of it. Accordingly, in analyzing these data, data tables, diagrams, charts were used for a clear demonstration.

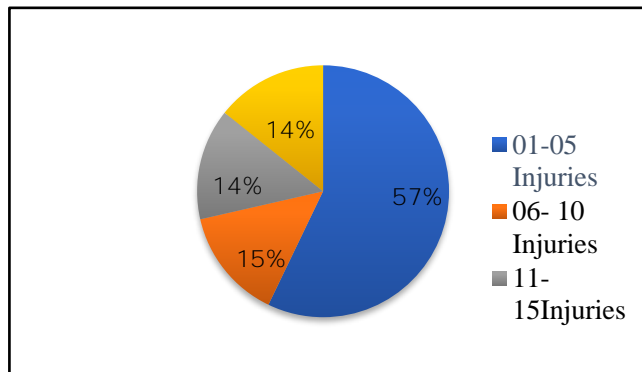
## **Result and Discussion**

The study was conducted using the testimony of the Judicial Medical Officer in the murder cases reported at the Monaragala Uva Provincial High Court. Accordingly, 07 cases of homicide with sharp weapons were selected from 13 cases and the data were analyzed by a case study report with full information on the injuries, and cause of death. These cases were analyzed using a classification presented by Au and Beck (2011).

1. Classification according to the number of injuries of the person killed
2. Classification according to the severity of the victim's injury
3. Classification according to the type of injury of the murdered person
4. Classification according to the place of injury of the murdered person

Event number	Gender	Number of injuries	The severity of the injury	Type of injury	The place of injury							
					Head	Face	Neck	Trunk	Lap	Upper Limb	Lower Limb	
1	Male	1	Critical	Strikes								
2	Male	2	Critical	Strikes								
3	Female	6	Critical if not treated	Cuts								
4	Male	11	Critical and minor injury	Cuts/ Abrasions								
5	Male	18	Critical and minor injury	Strikes/ Abrasions								
6	Male	03	Critical and minor injury	Strikes/ Abrasions								
7	Female	03	Critical	Shots/ Bites (Ant)								

**Table 01:** Classification according to the number of injuries of the person killed



**Figure 01:** Numbers of injuries identified from each homicide

The above chart presents an outline of the total number of casualties identified in this study. Accordingly, it is clear from the above data that the number of deaths due to less than 5 injuries is higher.

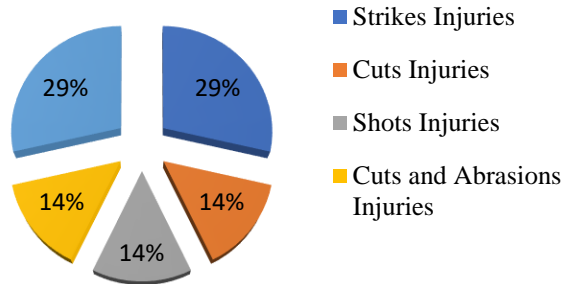


Figure 02: Classification according to the type of injury of the murdered person

It is clear from the above chart percentages that the stab wounds were mostly used for these murders.

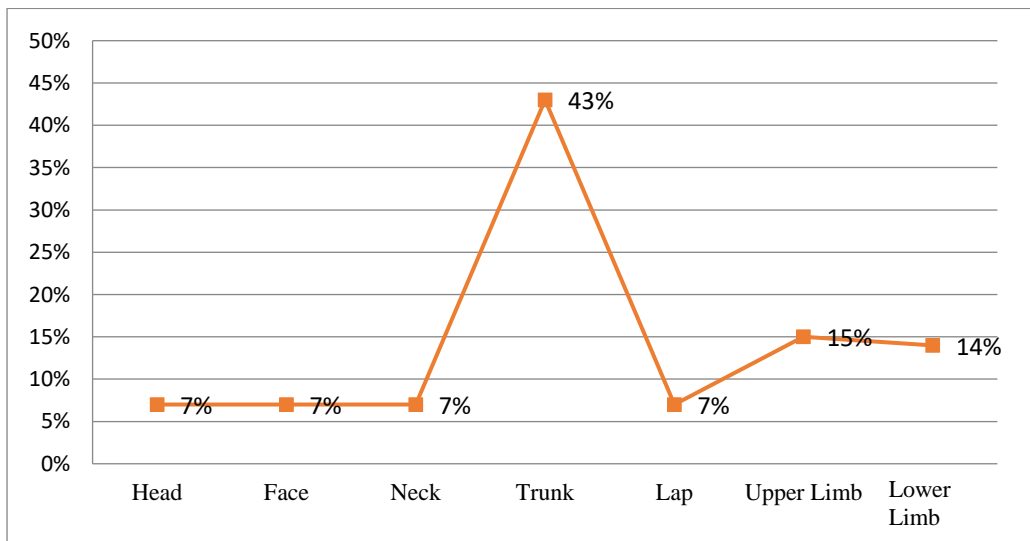


Figure 03: Classification according to the place of injury

Above chart demonstrated that the injuries to the trunk were in high range comparing to the head, face, and neck.

This information shows that the killer often inflicted stab wounds in the majority of the stab wounds, most of which were cuts on the head and neck. This is because the trunk contains vital organs such as the lungs, heart, and kidneys, and damage to these organs is often severe. Similarly, the neck and head are the most important organs and damage to the brain or spinal cord can be fatal. Although one of the incidents identified in this study resulted in the deaths of people who had suffered injuries as a result of the injuries sustained in the incident.

More than one injury, which is usually the hallmark of a homicide, is found in all but one of these cases, except in cases 01 and 7. Incident No. 07 here is a shooting, and although the injuries inflicted by the animals after the death were seen, only one of the injuries which led to the murder was found. The wounds that caused all these murders can be described as deep as well as wounds that can be seen anywhere on the body.

Similarly, the presence of corresponding wounds on the clothes worn is another feature of a homicide wound. According to the case records, it was clear in these cases that similar injuries had been identified in the clothes. It was clear from the case records that there were corresponding injuries on the clothes worn, especially in cases 05 and seven.

The presence of stab wounds in hidden areas is a common feature of a homicide, but no injuries were reported in such hidden areas. Also, the location of the assailant can be identified by the direction of attachment, with the forensic medical officer reporting that in cases 3 and 5, he was attacked from the front, and in all other cases, he was attacked from behind. Thus, the study revealed the methods used by the forensic pathologist to identify the murders committed by the sharp weapons that the study was trying to establish.

1. Identify the body first to perform the post mortem
2. Recording the appearance of the corpse
3. Identify and report the external features of the body involved in the murder

4. Identify lesions on the surface of the body and record the nature and the extent of the lesion using numbers
5. Identify and report injuries before and after death
6. Obtaining internal injuries through techniques such as X-rays
7. Distinguish between injuries sustained during surgery and injuries stained by the killer to provide medical assistance.
8. Identify the internal injuries of the body and assess the damage caused to the internal organs by those injuries.
9. Determining the severity of the injury
10. Present an idea of the weapon used to inflict the injury according to the nature of the injury
11. Provide an idea of the force exerted on the wound by the nature of the injury and the location of the injured person and the injured person.
12. Present an idea of how the injury occurred according to the size and shape of the wound

## **Conclusion**

Through this study, we revealed that forensic medicine in Sri Lanka is still using a wide range of ancient techniques. Although many techniques such as DNA technology, pollen analysis, and microscopic testing are used to detect homicides at an advanced level around the world. Accordingly, it can be suggested that the use of modern technology in Sri Lanka is also important if criminals are to be brought to justice and eradicate crimes from the community.

## **References**

- Annual Reviews. (2019). Ancient DNA Studies in Physical Anthropology. [online] Available at: <https://www.annualreviews.org/doi/abs/10.1146/annurev.anthro.29.1.21> [Accessed 10 Feb. 2019].
- Anon, (2019). [online] Available at: <http://www.dinamina.lk/2018/03/16> [Accessed 3 Jan. 2019].



Au, K. and Beh, S. (2011). Injury patterns of sharp instrument homicides in Hong Kong. *Forensic Science International*, 204(1-3), pp.201-204.

Crime Museum. (2018). Forensic Anthropology - Crime Museum.[online] Available at <https://www.crimemuseum.org/crimelibrary/forensicinvestigation/forensic-anthropology/> [Accessed 2 Jul.2018].

Encyclopedia Britannica. (2019). Physical anthropology. [online] Available at: <https://www.britannica.com/science/physical-anthropology> [Accessed 9 Feb. 2019].