



Description of Trauma Cases in the ER at UNS Hospital Conducted VER Examination 2017–2021 to Realize Legal and Social Justice

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Abstract. Introduction: Diversity of trauma cases that occur in society. Descriptive research is needed regarding the results of the analysis and prevalence of trauma cases in the emergency room of UNS Hospital which is carried out by ver examination. The results of this study are expected to provide basic data related to forensic emergency room trauma cases in the Surakarta region.

Methods: This study is an observational descriptive study. The study used VER record data at the IGD of UNS Hospital from 2017 until 2021. The population of this study is all cases of forensic trauma in the emergency room of UNS Hospital which was carried out by VER examination in 2017–2021.

Results: Trauma cases in the emergency room of UNS Hospital conducted by VER examination in 2017–2021 totaled 41 cases, namely trauma by humans the most was persecution at 51.2%. The bluntest mechanical trauma was bruising at 32.2%. Sharp mechanical trauma at 2.5%, Trauma Physics at 2.5%.

Conclusion: Trauma cases in the emergency room of UNS Hospital conducted VER examination in 2017–2021 with the most human trauma data being persecution, and the bluntest mechanical trauma is bruised.

Keywords: Trauma · Emergency Room · Forensics · VER

1 Introduction

Indonesia is a country with a very high population density and with the COVID-19 pandemic, humans are increasing the unemployment rate which is directly proportional to the level of crime or crime. Based on data in 2019, the *total crime* in Central Java province was 10,224 with a *crime rate* of 29.6 per 100,000 population, while in 2020 it reached 9,485 cases in *total crime* and 27.3 *crime rate* per 100,000 Indonesian population [1]. Based on data reported by the Central Java Regional Police, there are several classifications of crime cases, namely 64 cases of crimes against life, 1,014 crimes against the physical/body, and 576 cases of crimes against decency during the two years. Some of these classifications can be classified into cases of trauma [2, 3]. For victims of traffic

accidents in Central Java in 2019, it reached 34,792 cases and in 2020 the number of cases was 28,051 [4].

Traffic accidents are examples of trauma cases. In addition to traffic accidents, other examples of trauma cases are disasters, maltreatment, suicide, terrorism, falls, drowning, and burns. Trauma itself is a wound caused by physical injury and trauma cases are often found in the Emergency Room because the ER is the room/service unit with the fastest facilities to treat patients with threats of disability and death [5]. In some cases of trauma, there are times when it is necessary to prove through legal channels for settlement. In this evidence, forensic science can assist law enforcement in revealing the truth of the case by finding out how the case could have happened by examining the victim [6]. Not only traffic accident cases, but forensic science also has a role in violent cases, namely, it is necessary to prove that violence has occurred using a physical examination of the victim's wounds, the scene of the incident, and the patient's history. All search results data will be listed on *Visum Et Repertum* [7]. And also forensic science has several branches of science such as forensic chemistry, forensic psychology, forensic medicine, forensic toxicology, computer forensics and so on [8].

Visum et Repertum itself is a special certificate made by a doctor containing conclusions based on the findings in the examination that have been identified which are intended to prove criminal or violent cases [6]. As supported by Article 133 paragraphs 1 and 2 of the Criminal Procedure Code (KUHAP), where it is stated that in court proceedings for victims of injury, poisoning, or death allegedly due to non-criminal events, he has the power to request a request for expert information from a judicial medical expert. or a doctor or other expert and as stated in Article 2 the request for expert information as referred to in paragraph (1) is made in writing. The letter is used for the examination of patients who have experienced trauma [9]. But *Visum et Repertum* is not only done for the dead, but can also be done for the living, and several types of *Visum et Repertum* can be done on living people and are divided into two, namely *Visum et Repertum for injury or poisoning*, *Visum et Repertum victims of immoral crimes* [6]. As an example of trauma cases that have been discussed previously, trauma cases handled by the ER are cases that can be examined for *Visum et Repertum* on living victims.

After the researchers saw the continuity of the *Visum et Repertum*, especially in trauma cases handled by the Emergency Department and there had never been a study that analyzed the topic in Surakarta. Therefore, researchers are interested in examining the results of the analysis and prevalence of ER trauma cases at UNS Hospital conducted by VeR in 2017–2021. And it is hoped that this study can provide basic data related to forensic emergency trauma cases in Surakarta and surrounding areas.

The general objective of this study is to obtain a comprehensive picture of the handling of trauma cases in the ER at the UNS Hospital who underwent a *Visum et Repertum* in 2017–2021, while the specific purpose of this study was to obtain statistical data on cases of trauma to the ER at the UNS Hospital in terms of the number of existing cases, which was carried out by *Visum et Repertum* in 2017–2021.

2 Methods

This study is a descriptive observational study with a retrospective approach. Research to examine the situation objectively is called the retrospective descriptive research method (Fig. 1).

This research was conducted at the Forensic Medicine Installation at UNS Hospital.

The research subjects were all cases of clinical forensic trauma contained in the VeR record file from the ER at UNS Hospital in 2017–2021.

Sampling was carried out using the *total sampling technique* which is the primary data from all clinical forensic VeR record files in the ER UNS Hospital in 2017–2021.

Samples are grouped according to the variables studied. The variables studied were trauma caused by humans, trauma caused by nature, trauma caused by disease, blunt trauma, sharp trauma, physical trauma, and chemical trauma (Table 1).

The research data analysis method used is descriptive analysis. The research data are recapitulated and presented in the form of tables and presentation graphs. The research results are described in the form of descriptive text by the existing theory (Fig. 2).

3 Result

3.1 Cases of Emergency Caused by Humans in the Emergency Rooms at UNS Hospital in 2017–2021

Based on the 41 cases studied, it was shown that the most ER Trauma caused by Humans in the ER at UNS Hospital in 2017–2021 was the most in the category of abuse 21 people (51.2%) and domestic violence as many as 7 people (17%), beatings as many as 5 people (12.1%) and stone-throwing, kidnapping, and fighting 1 person each (2.5%) (Table 2).

3.2 Cases of Emergency Trauma Caused by Disasters in the Emergency Room at UNS Hospital in 2017–2021

Based on Table 3, shows that there was no trauma caused by disasters in the UNS Hospital Emergency Room in 2017–2021.

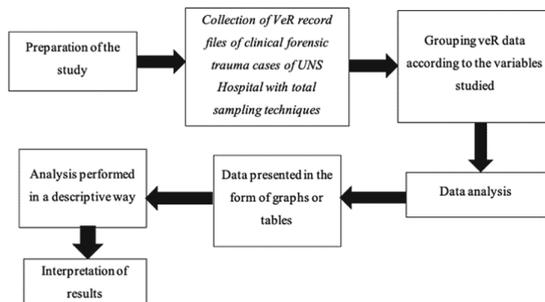


Fig. 1. Research Design

Table 1. Operational definition

Variable	Definition	Result of Measurement
Human-caused trauma	Human-caused wounds	<ul style="list-style-type: none"> • quarrels • Rape • Terror • Kidnapping • Corruption • Demonstrations • Violence that occurs as a result of domestic violence
Trauma caused by nature	Wounds caused by nature	<ul style="list-style-type: none"> • Earthquakes • Tsunami • Mount Eruption • Flooding • Landslides • etc.
Trauma caused by the disease	Wounds resulting from the disease	<ul style="list-style-type: none"> • Tuberculosis • HIV • Malaria • etc.
Blunt trauma	Injuries resulting from tools or weapons in blunt form	<ul style="list-style-type: none"> • Bruising • Pressure abrasions • Sliding abrasion wounds • Torn wounds • Fractures
Sharp trauma	Wounds caused by objects whose surface can slice so that tissue contingency is lost	<ul style="list-style-type: none"> • Incisional wound • Chop wounds • Stab wounds • Firearms
Trauma physics	Injuries caused by physical factors	<ul style="list-style-type: none"> • Hot temperature wounds • Cold temperature sores • Electrical trauma wounds • Wound changes in air pressure • Lightning wounds
Chemical trauma	Wounds caused by chemical factors	<ul style="list-style-type: none"> • Strong acid wounds • Strong alkaline wounds

3.3 Cases of Emergency Trauma Caused by Disease in the Emergency Room at UNS Hospital in 2017–2021

Based on Table 4, shows that there was no trauma caused by disease in the Emergency Room at UNS Hospital in 2017–2021.



RESEARCH ETHICS COMMITTEE
KOMITE ETIK PENELITIAN
Faculty of Medicine Universitas Sebelas Maret
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ETHICAL CLEARANCE
KELAIKAN ETIK
No : 49 /UN27.06.11/KEP/EC/2022

The Research Ethics Committee of Faculty Medicine Universitas Sebelas Maret after reviewing the research protocol, here with to certify that the research protocol is/are:

Komite Etik Penelitian Fakultas Kedokteran Universitas Sebelas Maret setelah meniali dokumen protokol penelitian yang diusulkan, dengan ini menyatakan bahwa usulan penelitian dengan judul :

Deskripsi Kasus Trauma DI IGD RS UNS Yang Dilakukan Pemeriksaan VER Pada Tahun 2017 – 2021

Protocol ID : 01/02/04/2022/48
Nomor Protokol

Principal Investigator : Ansyella Berlanda Effendy
Peneliti Utama : NIM. G0019026

is Ethically Approved
Dinyatakan Laik etik

The ethics approval expires 1 (one) year after issued and the Principal Investigator must send progress report and/or final report to REC by 30 November.

Sertifikat kelaikan etik ini berlaku 1 (satu) tahun sejak diterbitkan dan Peneliti Utama wajib memberikan laporan kemajuan dan/atau laporan akhir penelitian selambat-lambatnya 30 November.

Surakarta, 28 April 2022

Chairman
Ketua


Tri Nugraha Subhawati, dr., M.Med., Ph.D
NIR - ID002303-2006042-001



Fig. 2. Ethical Clearance

Table 2. Cases of Emergency Trauma caused by humans in the Emergency Rooms at UNS Hospital in 2017–2021.

Human-caused trauma	Frequency	Percentage
None	1	2.5%
Stone Throwing	1	2.5%
Persecution	21	51.2%
Domestic Violence	7	17%
Traffic Accident	4	9.7%
Abduction	1	2.5%
Scraping	5	12.1%
Fight	1	2.5%
Total	41	100%

Table 3. Cases of Emergency Trauma caused by disasters in the Emergency Rooms at UNS Hospital in 2017–2021.

Trauma caused by disasters	Frequency	Percentage
None	0	0%

Table 4. Cases of Emergency Trauma caused by disease in the Emergency Rooms at UNS Hospital in 2017–2021.

Trauma caused by disease	Frequency	Percentage
None	0	0%

Table 5. Cases of Emergency Trauma caused by blunt trauma in the Emergency Rooms at UNS Hospital in 2017–2021.

Trauma caused by blunt trauma	Frequency	Percentage
None	5	12.1%
Sliding Scuffs	1	2.4%
Bruise	17	41.4%
Swelling of the limbs	3	7.7%
Torn wounds	5	12.1%
Press abrasions	8	19.5%
Fractures	1	2.4%
Vascular width	1	2.4%
Total	41	100%

3.4 Cases of Emergency Trauma Caused by Blunt Trauma in the Emergency Room at UNS Hospital in 2017–2021

Based on 41 cases that have been studied, it shows that cases of emergency room trauma caused by blunt trauma in the emergency room of UNS Hospital in 2017–2021 were at most 17 people bruised (41.4%), pressure abrasions as many as 8 people (19.5%), torn wounds as many as 5 people (12.1%), swelling of the limbs as many as 3 people (7.7%), and at least in the category of sliding abrasions as many as 1 person (2%) (Table 5).

Table 6. Cases of Emergency Trauma caused by sharp trauma in the Emergency Rooms at UNS Hospital in 2017–2021.

Trauma caused by Sharp trauma	Frequency	Percentage
Tidak Ada	40	97.5%
Incisional Wound	1	2.5%
Total	41	100.0%

Table 7. Cases of Emergency Trauma caused by physical trauma in the Emergency Rooms at UNS Hospital in 2017–2021.

Trauma caused by physical trauma	Frequency	Percentage
None	40	97.5%
Burns	1	2.5%
Total	41	100%

3.5 Cases of Emergency Trauma Caused by Sharp Trauma in the Emergency Room at UNS Hospital in 2017–2021

Based on the data studied as many as 41 case data shows that the cases of emergency room trauma caused by sharp trauma in the emergency room of UNS Hospital in 2017–2021 were 1 person (2.5%) and there were not as many as 40 people (97.5%) (Table 6).

Results, present the characteristics of research sample data and the main findings of the study, as well as data from the analysis.

3.6 Cases of Emergency Trauma Caused by Physical Trauma in the Emergency Room at UNS Hospital in 2017–2021

Based on the overall data studied, it shows that the cases of IGD trauma caused by physical trauma in the emergency room of UNS Hospital in 2017–2021 burned as many as 1 people (2.5%) (Table 7).

3.7 Cases of Emergency Trauma Caused by Chemical Trauma in the Emergency Room at UNS Hospital in 2017–2021

Based on Table 8, shows that there was no trauma caused by chemical trauma in the Emergency Room at UNS Hospital in 2017–2021.

Table 8. Cases of Emergency Trauma caused by chemical trauma in the Emergency Rooms at UNS Hospital in 2017–2021.

Trauma caused by chemical trauma	Frequency	Percentage
None	0	0%

4 Discussion

Figures The results of this study show that trauma cases in the emergency room of UNS Hospital carried out ver examination in 2017–2021 can be done by examining medical record files stored in the Medical Record Installation section of UNS Hospital. With the variables I researched are as follows.

The first research result was to review the trauma caused by human trauma in the emergency room of UNS Hospital in 2017–2021, the most was persecution (51.2%), followed by the presence of domestic violence with a percentage (17%).

Research supported by Nisa research (2018) shows that the average age who experiences domestic violence is 34–42 years old 21 people (44%), high school education 26 people (52%), and work as many as 34 people (68%). a picture of the form of violence experienced by women survivors of domestic violence and have reported such violence. From the data obtained, it shows that there are differences in forms of violence in all respondents, there are even respondents who experience more than one form of violence. Information related to the form of violence experienced by the survivor needs to be explained further so that the survivor can develop appropriate strategies and treatment to help him recover from the domestic violence he experienced [10].

Domestic violence can occur at all ages, genders, ethnic groups, cultures, religions, ethnic groups, cultures, religions, education levels, occupations, and marital statuses. Therefore, a higher educational background cannot guarantee that women can be free from violent treatment. This picture implies that women with higher education will not be separated from the possibility of intimidation of terror, and abuse both in the public sector and domestically Domestic violence occurs in all layers.

4.1 Research Limitation

The difficulty in conducting the study was obtaining complete patient data because it only researched based on the visum et repertum record file stored in the medical record installation of UNS Hospital. And can only refer to such data. As in the data that is not given information or inclusion of the type of trauma itself and several things affect the determination of the trauma case.

4.2 Suggestions

It is hoped that the next study can analyze the factors that affect trauma cases in the emergency room and it is hoped that the next study can recognize thesis to several hospitals to obtain a larger number of samples.

5 Conclusion

Based on the results of the study, conclusions were found:

1. Most cases of IGD trauma caused by human trauma in the emergency room of UNS Hospital in 2017–2021 were mostly persecution (51.2%).
2. There were no cases of emergency room trauma caused by disasters in the emergency room of UNS Hospital in 2017–2021 (0%).
3. There were no cases of emergency room trauma caused by disease in the emergency room of UNS Hospital in 2017–2021 (0%).
4. Cases of emergency room trauma caused by blunt trauma in the emergency room of UNS Hospital in 2017–2021 were the most bruises (41.4%).
5. Cases of emergency room trauma caused by sharp trauma in the emergency room of UNS Hospital in 2017–2021 iris wounds (2.5%).
6. Cases of emergency room trauma caused by physical trauma in the emergency room of UNS Hospital in 2017–2021 were burns (2.5%).
7. Cases of IGD trauma caused by chemical trauma in the emergency room of UNS Hospital in 2017–2021 did not exist (0%).

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