INTERNATIONAL JOURNAL OF SOCIAL HEALTH
https://ijsh.ph/index.php/rp
Volume 3 Number 10 October 2024

Characteristics on Deceased Traffic Victims Were Taken to Cirebon Waled Hospital in 2021-2023

Savilla Rahmani Regita Putri[1]*, Sutara[2], Riza Rivani[3]
Universitas Swadaya Gunung Jati, Cirebon, Indonesia[1,2,3]
Email: savilla.rahmani.regita@gmail.com

KEYWORDS
Characteristics Of Deceased Victims, Traffic Accidents, Waled Cirebon Regional Hospital

ABSTRACT
A wound is the loss or damage of part of the body's tissue that can disrupt the protective function of the skin due to the loss of continuity of epithelial tissue, whether with damage to other tissues or not. Traffic accidents often result in victims sustaining wounds that may lead to death. Research from the Open Data of Cirebon Regency indicates that in 2022, there were 201 fatalities, 959 minor injuries, and 3 serious injuries due to traffic accidents. Objective: To determine the characteristics of traffic accident victims who died and were taken to Waled Regional Hospital, Cirebon Regency, from 2021 to 2023. This research is descriptive and observational. The sample was taken from medical record data, totaling 56 samples based on inclusion criteria. The sampling technique used was total sampling. Based on the univariate analysis, this study found that the data includes 43 males (76.8%), 4 individuals aged 35 years (3.6%), with injury distribution in the head, upper extremities, and lower extremities totaling 9 (16.1%). The types of mechanical trauma amounted to 56 (100%), and the type of injury was fractures in 8 cases (14.3%). The characteristics of wounds in traffic accident victims based on gender showed that most were male. The most common age group was 35 years. The majority of wounds were distributed in the head, upper extremities, and lower extremities. The most frequent type of trauma was mechanical, and the most common type of injury was fractures.

DOI: 10.58860/ijsh.v3i10.251

Corresponding Author: Savilla Rahmani Regita Putri*
Email: savilla.rahmani.regita@gmail.com

INTRODUCTION

According to the World Health Organization (WHO), approximately 1.19 million people experience fatal traffic accidents each year globally, with an additional 20 to 50 million suffering from non-fatal injuries, many of whom develop long-term physical disabilities (Kjeldgård, 2023). In Indonesia, traffic accidents have become a significant public health issue. From January to September 13, 2022, the National Police Corps reported 94,617 cases of traffic accidents, reflecting a 34.6% increase compared to 2021, which recorded 70,000 cases.

Research conducted by the Central Statistics Agency (BPS) of West Java in 2016 recorded 6,861 traffic accidents involving various types of vehicles, highlighting the widespread nature of traffic incidents in the region. Specifically, data from the Cirebon Police shows that 203 vehicles were involved in accidents, with motorcycles accounting for 197 of those vehicles, followed by passenger cars, load cars, buses, and special vehicles (Mrázek, 2018). Furthermore, Cirebon Regency Open Data reported that in 2022, traffic accidents resulted in 201 deaths, 959 minor injuries, and 3 serious injuries, with material losses totaling IDR 1,232,051,200.

A study examined the relationship between road conditions and traffic accidents, finding that poor infrastructure and vehicle maintenance contribute significantly to accident rates, especially in rural areas, mirroring the conditions observed in parts of Cirebon. Additionally, research by (Champahom et

al., 2023) emphasized that motorcycles, due to their high usage in Indonesia, are disproportionately involved in traffic accidents, particularly among younger age groups.

Traffic accidents in Indonesia commonly involve both motorized and non-motorized vehicles (Ramlan et al., 2021). Motorized vehicles include two-wheeled (motorcycles), three-wheeled, and four-wheeled vehicles (cars, trucks, buses), while non-motorized vehicles may include bicycles or horse-drawn carriages (Martin, 2022). Respondents in accident studies often consist of drivers, passengers, and pedestrians, highlighting the range of people affected.

The nature of injuries varies widely. According to the 2018 Riskesdas report for West Java, 70.5% of traffic accidents involved motorcyclists, with 20.8% being motorcycle passengers, and the remainder involving car drivers (1.6%), car passengers (1.3%), and pedestrians (4.9%). The types of injuries most frequently seen include abrasions (63.1%), lacerations (21.4%), fractures (6.4%), and, in rare cases, amputations (0.6%). Body parts most commonly affected include the lower limbs (68.8%) and upper limbs (33.1%) (Oliveira et al., 2017).

Further studies, have explored the demographics and injury types of traffic accident victims, particularly the role of gender, age, and injury severity (De Cieri & Lazarova, 2021). Given the geographical context of Cirebon and the frequency of accidents, there is a clear need for more localized studies to understand the characteristics of victims in specific areas. This research focuses on the characteristics of traffic accident victims who died and were brought to Waled Hospital, Cirebon Regency, between 2021 and 2023, aiming to contribute to better understanding and prevention strategies (Marlina et al., 2024).

METHOD

This research uses a descriptive retrospective design research method. The design of this study uses data from the Medical Records of traffic accident victims who died and were taken to the Waled Hospital, Cirebon Regency, in 2021-2023. The population in this study is victims of fatal traffic accidents who were taken to the Waled Hospital in Cirebon Regency in 2021-2023, taken from medical records. The sample of this study was 56 people. How to take samples with total sampling.

RESULT AND DISCUSSION

This research is quantitative research, namely observational with a descriptive approach and using secondary data, namely medical record data from traffic accident victims who died and were brought to Waled Hospital in 2021-2023. With 56 samples, it was declared that the inclusion criteria were met using the total sampling technique.

Univariate analysis was carried out to describe the characteristics of respondents according to gender, age, wound distribution, type of trauma, and type of wound.

Characteristics of Traffic Accident Victims Injuries at Waled Hospital by Gender

Table 1.
Frequency distribution by gender

Gender	Frequency (n)	Percentage
Man	43	76.8
Woman	13	23.2
Total	**56**	**100**

From Table 1, it can be seen that the characteristics of injuries in traffic accident victims based on gender are male, as many as 43 (76.8%), while female gender is 13 (23.2%).

Characteristics of Traffic Accident Victims at Waled Hospital by Age

Table 2.
Frequency distribution by age

Age	Frequency (n)	Percentage
6 Years	1	1.8
14 Years	1	1.8
17 Years	2	3.6
18 Years	2	3.6
19 Years	1	1.8
20 Years	3	5.4
22 Years	1	1.8
24 Years	1	1.8
25 Years	3	5.4
27 Years	1	1.8
29 Years	4	3.6
30 Years	1	5.4
34 Years	1	1.8
35 Years	2	7.1
37 years	1	1.8
38 Years	1	1.8
39 Years	2	3.6
42 Years	1	1.8
46 Years	2	3.6
49 Years	1	1.8
50 Years	3	5.4
52 Years	2	3.6
53 Years	1	1.8
54 Years	1	1.8
55 Years	1	1.8
56 Years	1	1.8
58 Years	2	3.6
60 Years	1	1.8
63 years	2	3.6
64 years	1	1.8
67 years	1	1.8
69 years	1	1.8
70 Years	1	1.8
72 years	1	1.8
77 years	1	1.8
85 Years	1	1.8
89 years old	1	1.8
Total	56	100

From Table 2, it can be seen that the characteristics of injuries in traffic accident victims based on the most age are 35 years old as many as 4 patients (3.6%), then at the age of 6 years, 14 years, 19 years, 22 years, 24 years, 38 years, 42 years, 49 years, 53 years, 54 years, 55 years, and 56 years each

as many as 1 patients (1.8%), Furthermore, at the age of 17 years, 18 years, 29 years, 39 years, 46 years, 52 years, 58 years, and 63 years each as many as 2 patients (3.6%). Meanwhile, at the age of 20 years, 25 years, 30 years, and 50 years old, there were 3 patients each (5.4%).

Characteristics of Traffic Accident Victims at Waled Hospital Based on Injury Distribution

Table 3.
Frequency Distribution Based on Wound Distribution

Wound Distribution	Frequency (n)	Percentage
Abdomen, Inferior Extremities	1	1.8
Abdomen, Inferior Extremities, Anterior Thorax	1	1.8
Superior Extremities	3	1.8
Superior Extremities, Inferior Extremities	3	5.4
Head	6	10.7
Head, abdomen, inferior extremities	2	3.6
Head, Inferior Extremities	3	5.4
Head, Superior Extremities	3	5.4
Head, Superior Extremities, Inferior Extremities	9	16.1
Head, Superior Extremities, Inferior Extremities, Posterior Thorax	1	1.8
Head, Neck, Abdomen, Superior Extremities, Inferior Extremities, Anterior Thorax	1	1.8
Head, Neck, Anterior Thorax	1	1.8
Head, Neck, Anterior Thorax, Superior Extremities, Inferior Extremities	2	3.6
Head, Thorax Anterior	1	1.8
Head, Anterior Thorax, Abdomen, Superior Extremities	3	5.4
Head, Anterior Thorax, Abdomen, Superior Extremities, Inferior Extremities	1	1.8
Head, Anterior Thorax, Abdomen, Inferior Extremities	3	5.4
Head, Anterior Thorax, Superior Extremities	1	1.8
Head, Anterior Thorax, Superior Extremities, Inferior Extremities	5	8.9
Head, Anterior Thorax, Posterior Thorax, Abdomen, Superior Extremities, Inferior Extremities	1	1.8
Head, Posterior Thorax, Superior Extremities	1	
Neck	1	1.8
Thorax Anterior	2	3.6
Thorax Anterior, Abdomen	1	1.8
Thorax Anterior, Thorax Posterior	1	1.8
Thorax Posterior	1	1.8
Total	56	100

From Table 3, it can be seen that the characteristics of injuries in traffic accident victims based on the distribution of the most injuries are in the head, superior extremities, inferior extremities as many as (16.1%), heads as many as (10.7%), heads, anterior thorax, superior extremities, inferior extremities as many as 5 (8.9%), inferior extremities as many as (5.4%), heads, inferior extremities as many as (5.4%), heads, Superior extremities as many as (5.4%), head, anterior thorax, abdomen, superior extremities as many as (5.4%), head, anterior thorax, inferior extremities as many as (5.4%), head,

abdomen inferior extremities as many as (3.6%), head, neck, anterior thorax, superior extremities, inferior extremities as many as (3.6%), anterior thorax as many as (3.6%), abdomen. (1.8%) inferior extremities, abdomen, inferior extremities, anterior thorax (1.8%), (1.8%), head, superior extremities, inferior extremities, posterior thorax (1.8%), head, neck, abdomen, superior extremities, inferior extremities, anterior thorax (1.8%), head, neck, anterior thorax (1.8%), head, anterior thorax (1.8%), head, anterior thorax, abdomen, superior extremities, inferior extremities as much as (1.8%), head, anterior thorax, inferior extremities as many as (1.8%), head, anterior thorax, superior extremities as much as (1.8%), head, anterior thorax, posterior thorax, abdomen, superior extremities, inferior extremities as many as (1.8%), head, posterior thorax, inferior extremities as many as (1.8%), neck as many as (1.8%), anterior thorax, abdomen as many as (1.8%), anterior thorax, (1.8%) posterior thorax and (1.8%) posterior thorax.

Characteristics of Traffic Accident Victims at Waled Hospital Based on Trauma

Table 4.
Frequency distribution is based on the cause of the type of trauma

Types of Trauma	Frequency (n)	Percentage
Mechanic	56	100
Total	56	100

From Table 4, the description of injuries in traffic accident victims based on the type of trauma is the most frequent mechanical trauma, as many as 56 (100%).

Characteristics of Traffic Accident Victims at Waled Hospital Based on Injury Type

Table 5.
Frequency distribution is based on the cause of the type of injury

Types of Wounds	Frequency (n)	Percentage
Fracture	8	14.3
Fractures, Abrasions	2	3.6
Fractures, abrasions, bruises	1	1.8
Fractures, Abrasions, Open Wounds	1	1.8
Fractures, Abrasions, Open Wounds, Bruises	2	3.6
Fractures, bruises, abrasions	1	1.8
Fractures, Open Wounds	2	3.6
Fractures, Open Wounds, Abrasions	1	1.8
Fractures, open wounds, abrasions, bruises	1	1.8
Fractures, Open Wounds, Bruises	2	3.6
Abrasions	2	3.6
Abrasions, Fractures	4	7.1
Abrasions, Fractures, Open Wounds	1	1.8
Abrasions, Bruises	3	5.4
Abrasions, Bruises, Fractures	1	1.8
Abrasions, Bruises, Fractures	1	1.8
Abrasions, bruises, open wounds	1	1.8
Abrasions, open wounds, fractures, lacerations	2	3.65
Bruises	1	1.8
Bruises, Fractures	1	1.8
Bruises, Open Wounds, Fractures	1	1.8

Lacerations, Fractures	2	3.6
Open Wound	3	5.4
Open Wounds, Fractures	4	7.1
Open Wounds, Fractures, Abrasions	1	1.8
Open Wounds, Abrasions	5	8.9
Open Wounds, Abrasions, Fractures	1	1.8
Open Wounds, Abrasions, Bruises	1	1.8
Open Wounds, Bruises, Fractures	1	1.8
Total	56	100

From Table 5, it can be seen that the description of injuries in traffic accident victims based on the most frequent types of injuries is fracture injuries as many as 8 (14.3%), open wounds, abrasions as many as 5 (8.9%), abrasions, fracture wounds as many as 4 (7.1%), open wounds, fracture wounds as many as 4 (7.1%), abrasions, bruises as many as 3 (5.4%), open wounds as many as 3 (5.4%), Fractures, abrasions 2 (3.6%), fractures, abrasions, open wounds, bruises 2 (3.6%), fractures, open wounds 2 (3.6%), fractures, open wounds, bruises 2 (3.6%), abrasions 2 (3.6%), fractures, abrasions, open wounds, lacerations 2 (3.6%), lacerations, fractures 2 (3.6%), fractures, abrasions, Bruises 1 (1.8%), fractures, abrasions, open wounds 1 (1.8%), fractures, bruises, abrasions 1 (1.8%), fractures, open wounds, abrasions 1 (1.8%), fractures, abrasions, bruises 1 (1.8%), fractures, abrasions, bruises 1 (1.8%), fractures, abrasions, open wounds 1 (1.8%), open wounds, abrasions, bruises 1 (1.8%), Bruises were 1 (1.8%), fractures, bruises were 1 (1.8%), open wounds, abrasions, bruises were 1 (1.8%), open wounds, abrasions, 1 (1.8%), open wounds, abrasions, fractures were 1 (1.8%), open wounds, abrasions, bruises were 1 (1.8%), open wounds, bruises, fractures were 1 (1.8%).

Based on research that has been conducted, the number of genders in traffic accident victims who died the most was male, as many as 43 people (76.8%) (Singh et al., 2016). This is to the research of Aprianta F (2017), that the most common gender in traffic accident victims is male, followed by the female gender.

The age obtained from this study was 35 years old, and there were as many as 4 patients (3.6%). This is in line with the research of Indrawan DA (2020) that the oldest age is in the early adult age range (26-35 years), the oldest age is equal to 34 years old.

Based on research that has been conducted, the distribution of injuries to traffic accident victims who died brought to Waled Hospital was the most in the head, superior extremities, and inferior extremities, as much as 9 (16.1%) (Zohrevandi et al., 2023).

This is in the study, the location of the most injuries causing death is the head and face. Indrawan DA Research (2020) states that the most frequent injuries are in the upper and lower extremities.

Based on research that has been conducted, the most frequent type of trauma in traffic accident victims is mechanical trauma, as much as 56 (100%). So far, there has been no research that addresses the types of traumas, so the results of this study cannot be compared to other studies (DiMauro et al., 2014).

The most common type of wound obtained from this study was fracture wound, with as many as 8 (14.3%), which shows that a fracture is the most frequent type of injury (Kim & Lee, 2019). However, the most common type of wound is laceration, and research shows that an open wound is the most common type of wound (Kožár et al., 2018).

CONCLUSION

This study concludes that the most gender is male, the most age is 35 years, the distribution of the most injuries is in the head, superior extremities, and inferior extremities, the most frequent type of trauma is mechanical trauma, and the most common type of injury is fractures/fractures.

REFERENCES

Champahom, T., Se, C., Jomnonkwao, S., Boonyoo, T., & Ratanavaraha, V. (2023). A Comparison of Contributing Factors between Young and Old Riders of Motorcycle Crash Severity on Local Roads. *Sustainability*, *15*(3), 2708.

De Cieri, H., & Lazarova, M. (2021). "Your health and safety is of utmost importance to us": A review of research on the occupational health and safety of international employees. *Human Resource Management Review*, *31*(4), 100790. https://doi.org/10.1016/j.hrmr.2020.100790

DiMauro, J., Carter, S., Folk, J. B., & Kashdan, T. B. (2014). A historical review of trauma-related diagnoses to reconsider the heterogeneity of PTSD. *Journal of Anxiety Disorders*, *28*(8), 774–786. https://doi.org/10.1016/j.janxdis.2014.09.002

Hsieh, C.-H., Hsu, S.-Y., Hsieh, H.-Y., & Chen, Y.-C. (2017). Differences between the sexes in motorcycle-related injuries and fatalities at a Taiwanese level I trauma center. *Biomedical Journal*, *40*(2), 113–120. https://doi.org/10.1016/j.bj.2016.10.005

Indrawan, N., Kumar, A., Moliere, M., Sallam, K. A., & Huhnke, R. L. (2020). Distributed power generation via gasification of biomass and municipal solid waste: A review. *Journal of the Energy Institute*, *93*(6), 2293–2313. https://doi.org/10.1016/j.joei.2020.07.001

Kim, J.-H., & Lee, D.-H. (2019). Negative pressure wound therapy vs. conventional management in open tibia fractures: Systematic review and meta-analysis. *Injury*, *50*(10), 1764–1772. https://doi.org/10.1016/j.injury.2019.04.018

Kjeldgård, L. (2023). *Sickness absence and disability pension among injured bicyclists and pedestrians*. Karolinska Institutet (Sweden).

Kožár, M., Hamilton, H., & Koščová, J. (2018). Types of wounds and the prevalence of bacterial contamination of wounds in the clinical practice of small animals. *Folia Veterinaria*, *62*(4), 39–47.

Marlina, T., Gumilang, I. G., Indriyanti, D. I., & Genuni, R. Y. (2024). Cirebon Regional Government Policy To Protect Child Victims Of Sexual Violence. *Arena Hukum*, *17*(1), 95–111.

Martin, P. W. (2022). US micromobility law (major road work ahead). *Available at SSRN 4037752*.

Mrázek, R. (2018). *Engineers of happy land: Technology and nationalism in a colony*.

Oliveira, V. M. A. de, Pitangui, A. C. R., Gomes, M. R. A., Silva, H. A. da, Passos, M. H. P. dos, & Araújo, R. C. de. (2017). Shoulder pain in adolescent athletes: prevalence, associated factors and its influence on upper limb function. *Brazilian Journal of Physical Therapy*, *21*(2), 107–113. https://doi.org/10.1016/j.bjpt.2017.03.005

Ramlan, R., Irawan, M. Z., & Munawar, A. (2021). Behavioral factors of motorcyclists in right-turn movements at unsignalized intersections: An insight from Yogyakarta, Indonesia. *IATSS Research*, *45*(1), 116–122. https://doi.org/10.1016/j.iatssr.2020.06.003

Singh, D., Singh, S. P., Kumaran, M., & Goel, S. (2016). Epidemiology of road traffic accident deaths in children in Chandigarh zone of North West India. *Egyptian Journal of Forensic Sciences*, *6*(3), 255–260. https://doi.org/10.1016/j.ejfs.2015.01.008

Zohrevandi, B., Rad, E. H., Kouchakinejad-Eramsadati, L., Imani, G., Pourheravi, I., & Khodadadi-Hassankiadeh, N. (2023). Epidemiology of head injuries in pedestrian-motor vehicle accidents. *Scientific Reports*, *13*(1), 20249.