



Profile of Traffic Accident Victims at RSUP Dr. M. Djamil Padang in 2010-2020

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Abstract. A traffic accident is an unexpected road event involving a vehicle with or without other road users resulting in human casualties and/or property loss. This research is a retrospective descriptive using secondary data from visum et repertum results of patients. The research sample was analyzed using a univariate approach to determine the distribution of age, gender, occupation, location of injuries, type of injuries, number of injuries based on the type of injury, the status of road users, and how patients arrive. The results of the study obtained as many as 2984 victims alive and 210 victims died. The age group of 15–29 years is the most (49.3% for living victims and 39% for dead victims), with a male predominance. The head and neck were the most common locations for injuries (73.1% of living victims and 90.5% of deaths). Abrasions were the most type of wound (82.4% of living victims and 81.4% of deaths). In the group of road users, 59.2% were motorbike riders and 71.1% came to the third referral hospital in Padang by being referred from another hospital. The living and dead victims due to traffic accidents based on age, gender, location of injuries, and types of injuries are in the same group.

Keywords: Deaths, Lives, Traffic Accidents, Wounds

1. INTRODUCTION

Traffic is the movement of vehicles and people in the road traffic space. Traffic space is infrastructure in the form of roads and supporting facilities used for the mobilization of vehicles, people and goods. This means that in traffic, facilities are needed in the form of vehicles, humans as users, and infrastructure in the form of roads or other facilities. If these three things are fulfilled optimally, traffic will run well as it should and mobilization can be fulfilled. If one of these three things is not met, there will be unwanted impacts, such as congestion, increased air pollution, and traffic accidents (UU RI, n.d.).

According to law no. 22 of 2009 concerning Traffic and road users, a traffic accident is an incident on the road that is unexpected and unintentional involving vehicles with or without other road users resulting in human casualties and/or property loss (UU RI, n.d.). Based on the Global Status Report on Road Safety, it is said that around the world more than 1.25 million victims die from traffic accidents and 50 million people are seriously injured per year. Of these, 90% occur in developing countries (WHO, 2014). The death rate from traffic accidents continues to increase and

reached 1.35 million victims in 2016 (WHO, 2015). Countries in Africa and Southeast Asia have a higher average death rate from traffic accidents higher than the world average, namely 26.6 and 20.7 deaths per 100,000 population (WHO, 2015). If there is no continuous action, then road traffic accidents are estimated to be the 5th cause of death ahead of tuberculosis, lung cancer, and Alzheimer's in year 2030 (WHO, 2015).

The number of traffic accident incidents obtained from the Indonesian National Police Agency in 2018 was 109,215 cases with 29,474 deaths, 13,315 serious injuries, and 130,571 minor injuries (BPS RI 2017, n.d.). Based on the region in Indonesia, it was found that the highest traffic accident rate was in East Java Province there were 24,757 cases in 2018 (BPS RI 2018, n.d.). In West Sumatra in 2017 the number of traffic accidents was 2,871 cases and the number of incidents in the city of Padang was 536 cases with 42 deaths, 259 seriously injured and 492 minor injuries (BPS RI 2018, n.d.) The number of traffic accidents in the city Padang in 2018 saw an increase of 663 cases with 71 deaths, 100 serious injuries and 808 minor injuries. (BPS RI 2018). Therefore, the study aimed to look how is the profile of traffic road accident in third referral hospital in West Sumatera.

2. METHODS

This Research is a retrospective descriptive research by taking a secondary data from visum et repertum drafts of traffic accident victims in third referral hospital in West Sumatera. This study aims to look how is the profile of traffic accident victims in Third referral hospital in West Sumatera in 2010-2020. This research was conducted at the Departement of Forensic and Legal Medicine of Third reffeval hospital in west sumatera (Dr. M. Djamil Hospital) in February-December 2022. This research used total sampling for the sample who met the inclusion criteria and exclusion criteria. The data taken is in the form of secondary data, the victims' visum et repertum drafts in the form of ages, genders, occupations, location of injuries, type of injuries, the number of injuries based on the type of injuries, the status of road users, and how patiens arrives. After data correction is carried out, data processing is carried out using the Statistical Program for Sosial Science (SPSS). This research was conducted after passing the ethical review of Andalas University Ethical Commision with the number 21/UN.16.2/KEP-FK/2023.

3. RESULT AND DISCUSSION:

Table 1. Distribution of Traffic Accident Victims Based On Age In Third Referral Hospital In West Sumatera in 2010-2020

Age	Living Victims		Dead Victims	
	N	%	n	%
0 – 4 Years	65	2,2	4	1,9
5 – 14 Years	108	20,4	16	7,6
15 – 29 Years	1470	49,3	82	39,0
30 – 59 Years	638	21,4	80	38,1
≥ 60 Years	203	6,8	28	13,3
Total	2984	100	210	100

Table 1. shows that the age group 15-29 years is the largest age group who are victims of traffic accidents in terms of live victims, namely 49.3% (1470 people) of a total of 2984 data on live victims, and from 210 data on dead victims, the most many in the age group 15-29 years by 39% (82 people). A similar study was also conducted by Ratu et al who looked at the distribution of traffic accident victims based on age at Bhayangkara Ambon Hospital for the period 2014 – 2017, the highest frequency was found in the age group 25 – 44 years of 42% (Ratu R et al., 2021). Results obtained from Nouonan G et al. , at a Hospital in Kindia, Guinea for the period 2012 – 2016, the highest frequency was found in the age group 15 – 30 years of 46.98% (Nouonan G et al., 2022). This is in accordance with the WHO report which states that more than half of traffic accidents occur at the age of young adults with an age range of 15-44 years. This research shows that traffic accidents tend to occur at a young age, this is because road users in this circle have risky behaviors such as speeding, drinking alcohol, the desire to seek sensation and lack of experience in controlling vehicles (Barzegar A et al., 2020; Hassanzadeh K et al., 2020). at risk are also influenced by uncontrolled emotions. Based on statistical reports in most countries in the world, the main causes of traffic accidents are aggressive driver behavior, stress, emotional instability, depression, and lack of safety while driving (Hassanzadeh et al., 2020).

Table 2 Distribution of Traffic Accident Victims Based On Gender In Third Referral Hospital In West Sumatera in 2010-2020

Gender	Living Victims		Dead Victims	
	n	%	N	%
Man	2092	70,1	166	79
Woman	892	29,9	44	21
Total	2984	100	210	100

Table 2 shows that there are more traffic accident victims in men (70.9% of the dead and 79% of the living) than women (29.1% of the living and 21% of the dead). The results of another study conducted by Ratu R. et al, found more results in men (80%) than women (20%) (Ratu R et al., 2021). Based on research conducted by Nouonan G et al, at a Hospital in Kindia, Guinea for the period 2012 – 2016, it was found that there were more traffic accident victims in males (66.26%) than females (33.74%) (Nouonan G et al., 2022). This is in accordance with WHO statistical reports which state that men from a young age are more likely to be involved in traffic accidents and around 73% of all road traffic deaths occur in men (WHO, 2018). This is because men tend to be more involved in activities outside the home (Elachi I et al., 2015). In addition, men are the largest road users. Male drivers tend to exhibit emotional characteristics of irritability, impatience, a desire to drive aggressively and fast, and a lack of concern for danger (Delamou A et al., 2020).

Table 3 Distribution of Traffic Accident Victims Based On Occupation In Third Referral Hospital In West Sumatera in 2010-2020

Occupation	Living Victims		Dead Victims	
	n	%	N	%
Student	1428	47,9	41	19,5
College Student	236	7,9	19	9
Civil Servant	66	2,2	7	3,3
Private employee	260	8,7	64	30,5
Trader	48	1,6	0	0
Farmer	96	3,2	12	5,7
Laborer	64	2,1	6	2,9
Housewife	288	9,7	19	9
Self-Employer	185	6,2	8	3,8
Jobless	193	6,5	17	8,1
Others	120	4	17	8,1
Total	2984	100	210	100

Table 3. shows that the student group is the largest victim of traffic accidents, namely 47.9% (1,428 people) of the 2,984 data on living victims. This is in accordance with research conducted by Zainudin D et al at Kendari Hospital in 2016, it was found that student groups were the most victims of traffic accidents as much as 30.3%. (Vitayala A et al., 2016). Meanwhile, the highest number of victims who died were private employees at 30.5% (64 people). This is in accordance with research at RSUD Dr. Moewardi, who conducted research on victims who died, found that the private employee group was the largest group at 68%, followed by the student group at 15% (Hartanto DY et al., 2021). Student groups are the most victims in traffic accident cases due to various reasons, one of which is the unstable nature of student groups, which affects road mastery in driving, and

this has an impact on other road users thereby increasing the incidence of traffic accidents (Baity TN, 2018) Private employees can become victims of traffic accidents because of their higher mobility compared to other jobs. This work is not limited to being in one room like other jobs, so the possibility of traffic accidents is greater. (Herawati H, 2019)

Table 4. Distribution of Traffic Accident Victims' Injury Locations In Third Referral Hospital In West Sumatera in 2010-2020 For Living Victims

Injury Locations	Living Victims injuries				Total	
	No Exist		Exist		N	%
	n	%	N	%		
Head And Neck	803	26,9	2.181	73,1	2.984	100
Chest	2.518	84,4	15,6	15,6	2.984	100
Stomach and Pelvis	2.686	90	298	10	2.984	100
Upper Extremities	1.278	42,8	1.706	57,2	2.984	100
Lowerr Extremities	1.178	39,5	1.806	60,5	2.984	100

Table 5 Distribution of traffic accident victims's injury locations in Third Referral Hospital in West Sumatera in 2010-2020 for dead victims

Injury Locations	Dead Victims injuries				Total	
	No Exist		Exist		n	%
	N	%	n	%		
Head And Neck	20	9,5	190	90,5	210	100
Chest	80	38,1	130	61,9	210	100
Stomach and Pelvis	131	62,4	79	37,6	210	100
Upper Extremities	39	18,6	171	81,4	210	100
Lowerr Extremities	40	19	170	81	210	100

Table 4 and Table 5 show that from 2,984 data on victims who died, the most wounds were located on the head and neck by 73.1% (2,181 people) and from the 210 data on victims who died, the most injured locations were found on the head and neck by 90.5% (190 people). This is in accordance with research conducted at RSUP Dr. Kariadi Semarang that the distribution of injuries to victims who died from traffic accidents was mostly in the head at 95.8%. (Rahmawati NR, 2022). The location of the head occurs because motorists are not aware of using head protection such as using a helmet, for car drivers, the head collides with the windshield of the car thereby increasing the risk of injury, and the head is usually more often hit by other vehicles or with other blunt objects on pedestrians (Ratu R et al., 2021)

Table 6 Distribution of Traffic Accident Victims's Injury Types In Third Referral Hospital In West Sumatera in 2010-2020 For Living Victims

Injury Types	Living Victims Injuries				Total	
	No Exist		Exist		N	%
	N	%	N	%		
Abrasions	524	17,6	2.460	82,4	2.984	100

Bruises	1.694	56,8	1.290	43,2	2.984	100
Open Wound	1.397	46,8	1.587	53,2	2.984	100
Fracture	2.294	76,9	690	23,1	2.984	100
Burns	2.984	100	0	0	2.984	100

Table 7 Distribution of Traffic Accident Victims’s Injury Types In Third Referral Hospital In West Sumatera in 2010-2020 For Dead Victims

Injury Types	Dead Victims Injuries				Total	
	No exist		Exist		N	%
	N	%	N	%		
Abrasions	19	9	171	91	210	100
Bruises	45	21,4	165	78,6	210	100
Open Wound	61	29	149	71	210	100
Fracture	97	46,2	113	53,8	210	100
Burns	210	100	0	0	210	100

Table 6 and Table 7 show that from 2,984 data on victims who were alive, the most types of injuries were abrasions by 82.4% (2,460 people) and the least types of injuries were fractures by 23.1% (690 people). This is in line with research conducted at Dr. Hospital. R. Kandou Manado for the 2017 period, abrasions were found to be the most distributed, namely 53% (Kepel FR et al., 2017). Meanwhile, from 210 data on victims who died, the most types of injuries were obtained, namely abrasions by 91% (191 people) and the least types of injuries, namely fractures by 53.8% (113 people). Abrasion can occur in victims of traffic accidents because the mechanism of abrasions is easier than other injuries. When an accident victim falls from his vehicle, the victim will be dragged due to the repulsive force, friction can occur between the skin surface and the asphalt or ground surface. (Luile Y, 2006)

Table 8 Distribution of Traffic Accident Victims’s Injury Numbers Based On Injury Types in Third Referral Hospital in West Sumatera in 2010-2020 For Living Victims

Injury Types	Injury Numbers									
	Head And Neck		Chest		Stomach and Pelvis		Upper Extremities		Lowerr Extremities	
	n	%	n	%	N	%	N	%	n	%
Abrasions Single	539	35,6	217	64,2	170	71,7	498	33,4	514	34
Multiple	974	64,4	121	35,8	67	28,3	992	66,6	997	66
Total	1.513	100	338	100	237	100	1.490	100	1.511	100
Bruises Single	558	39,9	76	65,5	46	93,9	183	74,7	182	69,7
Multiple	356	61,1	30	34,5	3	6,1	62	25,3	79	20,3

Table 8 and Table 9 Show that the distribution between single and multiple injuries are different both from the living victims and dead victims.

Table 10 Distribution of traffic accident victims based on road user status in Third Referral Hospital in West Sumatera in 2010-2020 for living victims

Road User Status	N	%
Car Driver	58	1,9
Car Passengers	135	4,5
Motorbike Rider	1767	59,2
Motorbike passengers	468	15,7
Bike riders	23	0,8
Pedestrians	511	17,1
Others	22	0,8
Total	2984	100

Table 10 Shows that of the 2,984 victims who died in traffic accidents, approximately 59.2% (1,767 people) were found to be the most road users, namely motorcyclists. The results of this study are also in accordance with the report from the West Sumatra Central Bureau of Statistics which says that the number of motorbikes in West Sumatra in 2020 is 72.4% of the total number of vehicles (BPS, 2020). Another study conducted by Nouonan G et al at the Hospital in Kindia , Guinea, it was found that the most traffic accident victims were motorbike users at 65.5% followed by car users at 34.1%. (Nouonan G, et al)

Table 11 Distribution of traffic accident victims based on how patients come in Third Referral Hospital in West Sumatera in 2010-2020 for living victims

How patients come	N	%
Referral from other health facilities	2123	71,1
Go straight to RSUP Dr. M. Djamil	861	28,9
Total	2984	100

Table 11 Shows that of the 2984 victims who died in traffic accidents, approximately 71.1% (2163 people) were obtained which were references from other health facilities, and approximately 28.9% (861 people) were obtained who came directly to RSUP Dr. M. Djamil. This is also in line with the report from the Central Statistics Agency for West Sumatra Province that in 2021, more traffic accidents will occur outside the city of Padang, namely 76.3%, while in the city of Padang it will be 23.7% (BPS 2021)

The results of this study relate to the status of Dr. M. Djamil Padang which is a National Hospital at the PPK III level based on the Decree of the Minister of Health No. BN.06.01/I/874/2015 for the Central Sumatra region so that it becomes an advanced level

reference for type B hospitals and second-level health facilities in the vicinity. (Padang DRDMD, 2016)

4. CONCLUSION

Based on the research that has been carried out, it can be concluded that The living and dead victims in the third referral hospital in west sumatera due to traffic accidents based on age, gender, location of injuries, and types of injuries are in the same group. In the occupational group and the number of injuries based on the type of injury obtained a different group. In the dead victims, the percentage of multiple injuries was greater than in the living victims.

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