RISK FACTORS FOR TRAFFIC ACCIDENTS IN PALEMBANG CITY

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ABSTRACT

The occurrence of traffic accidents is still a relevant issue to this day. The high number of traffic accidents is one of the major problems in the field of public health that can cause injury, property loss and even death. Based on data on traffic accidents Palembang Polrestabes in 2020 still shows the high incidence of traffic accidents in the palembang city area. This study aims to analyze the incidence of traffic accidents based on the characteristics of accidents in the Palembang City area by 2020. Secondary data in this study using quantitative methods with a cross sectional approach and a sample of this study amounted to 414 accident victims. The sampling technique used in this study is purposive sampling. This research analysis uses univariate analysis, bivariate analysis, and analysis with the AEK (Accident Equivalent Numbers) method. The results of the analysis showed that there is a relationship between the location of the incident (P-value = 0.001) and the type of collision (P-value = 0.003) with the occurrence of a traffic accident. As for the age variable (P-value = 0.547), Gender (P-value = 0.967), employment status (P-value = 0.607), driver's license ownership (P-value = 0.052), the time of occurrence (P-value = 0.301), the type of vehicle (P-value = 1,000) did not have a significant association to the occurrence of traffic accidents in the city of Palembang. Based on the highest equivalent number value there are five roads that include the location of the blackspot, namely Kimarogan road, Colonel Burlian road, General Sudirman road, Alamsyah Ratu Prawiranegara road, and Mayjend.Y.Singadekane road. It can be concluded that there is a relationship between the location of the incident based on the model of the direction of traffic and the type of collision with the occurrence of a traffic accident. It is hoped that this research can be a foundation for related parties in efforts to minimize the incidence of traffic accidents based on the characteristics of accidents.

Keywords : Analysis, Traffic Accidents, Characteristics, Blackspot

ABSTRAK

Kejadian kecelakaan lalu lintas masih menjadi isu yang relevan sampai saat ini. Tingginya angka kecelakaan lalu lintas merupakan salah satu permasalahan besar di bidang kesehatan masyarakat yang dapat menyebabkan cedera, kerugian harta benda bahkan kematian. Berdasarkan data kecelakaan lalu lintas Polrestabes Palembang pada tahun 2020 masih menunjukkan tingginya angka kejadian kecelakaan lalu lintas di wilayah kota Palembang. Penelitian ini bertujuan untuk menganalisis kejadian kecelakaan lalu lintas berdasarkan karakteristik kecelakaan di wilayah Kota Palembang pada tahun 2020. Data sekunder dalam penelitian ini menggunakan metode kuantitatif dengan pendekatan cross sectional serta sampel penelitian ini berjumlah 414 orang korban kecelakaan. Teknik pengambilan sampel yang digunakan dalam penelitian ini yaitu purposive sampling. Analisis penelitian ini menggunakan analisis univariat, analisis bivariat, dan analisis dengan metode AEK (Angka Ekivalen Kecelakaan). Hasil analisis menunjukkan bahwa Ada hubungan antara lokasi kejadian (P-value = 0,001) dan tipe tabrakan (P-value = 0,003) dengan kejadian kecelakaan lalu lintas. Adapun untuk variabel usia (P-value = 0,547), Jenis Kelamin (P-value = 0,967), status pekerjaan (P-value = 0,607), kepemilikan SIM (P-value = 0,052), waktu kejadian (P-value = 0,301), jenis kendaraan (P-value = 1,000) tidak mempunyai hubungan yang signifikan terhadap kejadian kecelakaan lalu lintas diwilayah kota Palembang. Berdasarkan nilai Angka Ekivalen tertinggi ada lima ruas jalan yang termasuk lokasi *blackspot* yaitu jalan Kimarogan, jalan Kolonel Burlian, jalan Jenderal Sudirman, jalan Alamsyah Ratu Prawiranegara, dan jalan Mayjend.Y.Singadekane. Dapat disimpulkan bahwa ada hubungan

antara lokasi kejadian berdasarkan permodelan arah lalu lintas dan tipe tabrakan dengan kejadian kecelakaan lalu lintas. Diharapkan penelitian ini dapat menjadi landasan bagi pihak terkait dalam upaya meminimalisasi kejadian kecelakaan lalu lintas berdasarkan karakteristik kecelakaan.

Kata Kunci *:* Analisis, Kecelakaan Lalu Lintas, Karakteristik, *Blackspot*

Introduction

Traffic accidents are a relevant issue and need serious handling considering the magnitude of losses that have been caused both material losses and even fatalities. Various efforts to combat traffic accidents have been carried out by the government, among others, the provision of traffic signs but the problem cannot be solved easily [1]. The high number of traffic accidents is one of the big problems in the field of public health. In addition to being the highest cause of death in the world, traffic accidents are also one of the causes that often occur among injuries due to falls, drowning, burning, and poisoning. This condition is a major challenge to date to the sustainable development targets contained in the Sustainable Development Goals (SDGs) 2030 points (3.6) which states that the target of reducing the death rate from traffic accidents globally by 50% in 2020 [2].

In the International Bank for Reconstruction and Development in 2019, WHO revealed that currently road traffic accidents are the 8th leading cause of death globally resulting in the deaths of approximately 1.35 million people and 20-50 million people injured in road accidents every year [3]. WHO also revealed that traffic accidents are the leading cause of child death in the world with an average mortality rate of 1000 children and adolescents every day in the age range of 10-24 years.

In Indonesia, traffic accidents in the last three years became the third largest killer after coronary heart disease and tuberculosis based on evaluations conducted by WHO [4]. According to police data, most of the victims of traffic accidents in Indonesia are young age groups and productive workers. This includes national losses because these groups are part of the country's future outlook. According to global safety trends, nearly 400,000 young people under the age of 25 die each year by 2020, and millions more are injured or injured as a result of road accidents [5].

From the data of the situation of Kamseltibcar then the South Sumatra Police, the number of cases of traffic accidents in 2019 amounted to 1529 incidents, in 2020 as many as 1151 incidents. In addition to the number of fatalities, the South Sumatra Police also recorded material losses due to traffic accidents, namely in 2019 worth Rp.5,304,445,000 and in 2020 worth Rp.3,071,850,020. This shows a decrease in the incidence of accidents in South Sumatra as much as 25%. However, the decrease in the

number of traffic accidents in 2020 is not significant because it shows the still high number of traffic accidents.

Based on data on traffic accidents Palembang Police in 2020 recorded as many as 761 incidents of traffic accidents. The accident has resulted in 763 people being victims with a category of minor injuries as many as 47 people, severe injuries 69 people, and fatalities (died) 647 people, with the value of material losses experienced during the year is 824,850,000 rupiah. This shows that there is still a high incidence of traffic accidents in 2020 in the palembang city area. Based on the background of the problems that have been outlined, further research is needed related to risk factors related to traffic accidents in the Palembang city area.

Method

Study design

This research is quantitative research, this research is descriptive of analytics with a Cross Sectional approach, because the process of collecting data and variables is carried out at the same time. Cross sectional research design is a study that studies the correlation between exposure or risk factors (independent) with consequences or effects (dependents), by collecting data conducted simultaneously at one time between risk factors and their effects (point time approach), where independent variables and dependent variables are observed at the same time (Sugiyono, 2017). This study used secondary data from the Palembang Police Department collected by reviewing documents and observation of traffic accident data in 2020 to analyze traffic accident incidents based on the characteristics of accidents in palembang city.

Statistics

Data analysis in this study uses univariate analysis, bivariate analysis, and analysis with the Accident Equivalent Numbers (AEK) method as well as quality control statistical methods. The univariate analysis conducted in this study aims to explain or describe the characteristics of each research variable. In general, this analysis results in the distribution and percentage of variables based on the characteristics of traffic accidents (Notoatmodjo, 2012). The bivariate analysis in this study was conducted to look at the relationship or association between risk factors and traffic accident events using Chi-Square and kolmogorov tests to determine whether or not there is an meaningful relationship

between dependent variables and independent variables. The trust interval used is 95% or the level of significancy of 5% (0.05), hence the Chi-Square test decision is Ho rejected if p.Value (sig) > 0.05 which means there is no relationship between dependent variables and independent variables. In addition, to find out the location with high accidents or vulnerable locations (Blackspot) that is by using the Accident Equivalent Number (AEK) method and the quality control statistical method (UCL). The presentation of data in this study is presented in the form of tables, graphs and narratives.

Participants

The population of the study in this study was all drivers or motor vehicle riders who had traffic accidents and were recorded in the Polrestabes area of Palembang city. The total number of traffic accident victims recorded in the Palembang Police report in 2020 amounted to 763 people. After the selection of inclusion and exclusion criteria and missing data so that the final sample number of 414 respondents was obtained. The independent variables examined in the study were age, gender, employment status, driver's license ownership, location of the incident based on the model of traffic direction, time of occurrence, vehicle type, type of collision and blackspot location while the independent variable in the study was the incidence of traffic accidents.

Results
Bivariate Analysis

Table 1. Bivariate Analysis of Risk Factors Associated with Traffic Accident Events in Palembang City Area in 2020

Variables	Died		Injured		p-value	PR	95%CI
	n	%	n	%			
Age-group (years)							
≤45	24	7,7	286	92,3	0,547	0,80	0,39-1,62
>45	10	8,5	94	90,4			
Total	34	8,2	380	91,8			
Gender							
Male	28	8,2	314	91,8	0,967	0,98	0,42-2,28
Female	6	7,1	66	91,7			
Total	34	8,2	380	91,8			
Employment Status							
work	29	8,6	275	91,4	0,607	1,22	0,56-2,61
Not working	5	7,1	105	92,9			
Total	34	8,2	380	91,8			
SIM ownership							
None	29	9,9	264	90,1	0,052	2,39	0,95-6,04
Exist	5	4,1	116	95,9			
Total	34	8,2	380	91,8			
Location Based							
Modeling past directions	27	6,9	365	93,1	0,001*	0,21	0,10-0,44
Two-way	7	31,8	15	68,2			
One-way	34	8,2	380	91,8			
Total							
Time of Events (WIB)							
12.00-18.00	12	7,0	160	93,0	0,999	1,11	0,34-3,60
06.00-12.00	10	9,1	100	90,9			
18.00-00.00	8	10,0	72	90,0			
00.00-06.00	4	7,7	48	92,3			
Total	34	8,2	380	91,8			
Type of vehicle							
2-wheeled vehicles	32	8,2	357	91,8	1,000	1,02	0,26-4,04
≥4-wheeled vehicles	2	8,0	23	92,0			
Total	34	8,2	380	91,8			
Collision Type							
Out Of Control	2	1,4	145	98,6	0,003*	11,097	2,48-49,60
Head-on Collision	6	9,7	56	90,3			
Side-Collision	11	12,0	81	88,0			
Rear-end Collision	15	13,3	98	86			
Total	34	8,2	380	91,8			

*Significant

Based on table 1 above shows that there is a relationship between the location of the incident and the type of collision with the traffic accident event from the statistical test obtained, namely 0.001 and 0.003 which shows a significant value of P-value < 0.05. However, for age variables (P-value = 0.547),

Gender (P-value = 0.967), employment status (P-value = 0.607), driver's license ownership (P-value = 0.052), time of occurrence (P-value = 0.301), vehicle type (P-value = 1,000) did not have a significant association to the incidence of traffic accidents in the city of Palembang.

Based on the prevalence ratio value, it is obtained that the risky variables are driver's license ownership, type of collision, job status, time of occurrence, and vehicle type. Each prevalence ratio value obtained from the results of bivariate analysis based on sim ownership 2.39 with CI range (0.95-6.04), collision type 11,097 with CI range (2.48-49.60), employment status 1.22 with CI range (0.56-2.61), event time with CI range (0.34-3.60), and vehicle type 1.02 with CI range (0.26-4.04).

Table. 2 Analysis of Blackspot Locations in Palembang City Region in 2020

No.	Name of Street	Accident Equivalent Figures				Total AEK	UCL
		10*MD	5*LB	1*LR	1*PDO		
1.	Jl.Kol.H.Burlian	20	5	49	0	74	64,408
2.	Jl. Demang Lebar Daun	10	0	10	0	20	57,695
3	Jl. Jenderal Sudirman	20	20	32	0	72	64,2
4.	Jl. Alamsyah	30	10	20	0	70	64,031
5.	Jl. Ki.Marogan	50	10	15	0	75	64,456
6.	Jl. Gub.H. Bastari	0	10	0			57,695
7.	Jl. Soekarno Hatta	10	5	6			59,211
8.	Jl. Mayjend. Y. Singadekane	30	15	9			53,345
9.	Jl.Noerdin Panji	10	5	0			58,364
10.	Jl. Jend.A.Yani	0	20	5			59,761

Discussion

The purpose of the study was to analyze the relationship between risk factors and the incidence of traffic accidents.

Bivariate Analysis

a. Relationship between Age and Traffic Accidents

Age is one of the factors that can affect a person in carrying out activities sahari-hari. Age has an important influence on the incidence of traffic accidents. The results of the Chi Square Test statistical analysis showed P-value = 0.547 (P-value >0.05), so it can be concluded that there is no significant

association between age and the incidence of traffic accidents in palembang city region because either young age or adulthood have the same chance of experiencing traffic accidents of varying severity. The prevalence ratio at the age of <45 is 0.80, indicating that motorists with the age of <45 have a risk of 0.80 times less or 20% reduced risk of traffic accidents compared to motorists with >45. With a 95% degree of confidence the <45 age group reduced the risk for traffic accidents between 0.39 and 1.62 compared to the age group >45. This study is in line with research conducted by Ari Anggo (2013) with statistical results obtained P-value 0.650 (>0.05) which means there is no relationship between age and the incidence of traffic accidents.

From 17 years to 30 years old, a person has a fairly high level of productivity. At that age activities outside the home will increase, so the use of motor vehicles and traffic on the road will be very often done. Controlling the number of accidents with victims in this productive age will be very important to do. As for at a very young age such as a dozen years, emotionally judged not mature enough in controlling emotions while driving [6]. This is because age is one of the factors related to a person's behavior. A person who has a mature age will have safe behavior in driving. Therefore, there needs to be strict enforcement of regulations against motorists under the age of 17 years in accordance with Law No. 22 of 2009 on Traffic and Road Transport.

b. Relationship between Sex and Traffic Accidents

Sex is the biological sign that distinguishes humans between men and women. These biological differences can be seen from the sex of the male or female and the genetic differences. Gender refers to a person behaving and reflecting appearance according to his or her gender (Notoatmodjo, 2011). The results of the Chi Square Test statistical analysis showed P-value = 0.967 (P-value >0.05), so it can be concluded that there is no significant relationship between gender and the incidence of traffic accidents in palembang city region. This can happen because the male or female sex has the same chance of having a traffic accident. The prevalence ratio in the male sex of 0.98 indicates that motorists with a male sex have a risk of 0.98 times less or 2% reduced risk of dying from a traffic accident. With a 95% confidence degree, male riders reduce the risk of death from traffic accidents between 0.42 and 2.28 compared to female riders. This study is in line with research conducted by Puspitasari and Hendrawati (2013) which showed that there was no relationship between gender and motorcycle driving compliance in students (P 0.178). Both male and female sexes are equally likely to disobey safety riding provisions so as to increase the risk of traffic accidents [7].

c. Relationship between Work and Traffic Accidents

The results of the Chi Square Test statistical analysis showed P-value = 0.607 (P-value >0.05), so it can be concluded that there is no significant relationship between employment status and traffic accidents in palembang. This is because whatever his employment status does not affect the incidence of traffic accidents. A person with a working or non-working status has the same opportunity to have a traffic accident. Likewise with the type of work of victims whatever the work while they have a high mobilization of the same risk. However, motorists with working status have a high enough activity level that can affect concentration while driving. This can increase the risk of traffic accidents.

The prevalence ratio of working motorists of 1.22 shows that although statistically showing a meaningless relationship, motorists who have working status are 1.22 times more likely to die from a traffic accident compared to non-working motorists. Researchers believe 95% of working-status motorists affect the incidence of traffic accidents with a CI range of between 0.56-2.61.

The majority of motorists who have more private traffic accidents. Private workers are generally included in motorists with adult age and one of the types of jobs most often involved in traffic accidents. This can happen because private workers have high levels of stress and busyness, thus affecting behavior while driving, not concentrating while driving, drowsiness, or even driving a vehicle at a high speed so that it can increase the risk of traffic accidents and can result in severe injuries even the most fatal.

According to a statement from the Satlantas Division of Palembang Police, Aiptu. M. Muhtasor

told smart Fm Palembang that throughout 2020 trouble spots or traffic problems are seen to decrease considering that since the beginning of 2020 there are many restricted activities such as offices, schools and others. So, this also has an impact with the number of motorists who usually crowded the highway. Palembang City Traffic Unit assesses that the Covid-19 pandemic also affects traffic problems in the Palembang city area. The application of work from home (WFH) during the implementation of PPKM resulted in smooth traffic flow in Palembang because vehicles passing on public roads were reduced.

This study is in line with research conducted by Savitri et al.(2012) which states that accidents in those who work primarily in private employees with a percentage of 97.2% at risk of being involved in traffic accidents compared to those who are not working. This is influenced by the behavior of private employees who are usually in a hurry when driving a vehicle, especially to reach work so that the risk of traffic accidents is high [8].

d. Relationship between driver's license ownership and traffic accident

The results of the Chi Square Test statistical analysis showed P-value = 0.052 (P-value >0.05), so it can be concluded that there is no significant relationship between driver's license ownership and traffic accident incidents in palembang city. A person who has a driver's license or does not have a driver's license has the same chance of having a traffic accident. However, when viewed from the prevalence ratio of 2.39 this indicates that motorists who do not have a driver's license are at risk of 2.39 times greater occurrence of death due to traffic accidents compared to motorists who have driver's licenses. Researchers believe 95% that motorists who do not have a driver's license affect the incidence of death due to traffic accidents with a ci range of between 0.95-6.04.

Motorists who have a driver's license tend to have the ability to drive safely compared to those who do not have a driver's license. Meanwhile, motorists who do not have a driver's license tend to be afraid and avoid if many traffic police or officers patrol the highways of the region. So, in a state of fear motorists who do not have a driver's license when driving in the region trigger the initiative to drive at high speed or reverse the direction of the vehicle in order to avoid officer checks. Such behavior can cause the rider to suffer injuries even fatal (death).

This research is in line with research conducted by Nastiti based on analysis of chi square tests and fisher exact obtained value p = 0.259; RR 1,533 this shows that there is no relationship between the ownership of driver's license C and the incident of traffic accidents in high school students grade XI in Sidoarjo Regency [9]. Meanwhile, based on the distribution of the frequency of vehicle types in this study that are most heavily involved, namely motorcycles so that it can be known also that the type of driver's license C is also one of the mandatory requirements for motorcyclists. However, victims who have an accident and do not have a driver's license are very high percentage compared to victims who have driver's licenses. This is very concerning judging by the importance of driver's license ownership for motorists.

Of the several cases that occur, motorists who are not skilled in driving can also get a driver's license by using the services of Sim Scalpers. So from this incident, the tightening of driver's license spending for motorists must be in accordance with the procedures stipulated in Law number 20 of 2009 on traffic and road transport in article 88 paragraph 1 which states "To obtain a Driver's License as referred to in article 77, everyone must meet the requirements of age, administrative, health, and pass the exam."

e. Relationship between location and traffic accident

The results of the Chi Square Test statistical analysis showed P-value = 0.001 (P-value <0.05), so it can be concluded that there is a significant relationship between the location of the incident and the incidence of traffic accidents in the city of Palembang. The location of the incident with two-way traffic lanes affects the incidence of traffic accidents with the onset of injuries both mild and severe even the most fatal conditions. The prevalence ratio of two-way roads of 0.21 indicates that two-way roads have a risk of 0.21 times smaller or 79% reduced risk of dying from traffic accidents. With a 95% confidence degree two-way road reduces the risk of dying between 0.10 to 0.44 compared to a one-way street. The activity of driving with a motor vehicle traveling in a one-way lane is actually more protective than motor vehicles that drive in two-way lanes in one way. In two-way lanes the volume of traffic also tends to increase so that the risk of accidents will be higher. This study is in line with research conducted by Januarti (2009) obtained the results of statistical test P of 0.004 which means that there is a significant relationship between the direction of traffic and the incidence of traffic accidents. Where accidents that occur in two-way traffic lanes are 10 times greater than accidents that occur in one-way traffic lanes [10].

f. Relationship between The Time of The Incident and the Incident of a Traffic Accident

The results of the Chi Square Test statistical analysis showed P-value = 0.301 (P-value >0.05), so it can be concluded that there is no significant relationship between the time of the incident and the occurrence of traffic accidents in the region of Palembang. A person who drives at a busy time of vehicle or quiet vehicle has the same chance to have a traffic accident with the risk of injury either minor or severe injuries even the most fatal conditions. A person who drives at a busy time of vehicle or quiet vehicle has the same chance to have a traffic accident with the risk of injury either minor or severe injuries even the most fatal conditions. The prevalence ratio of 1.11 this indicates that at 12.00-18.00 WIB the risk is 1.11 times greater causing death due to traffic accidents compared to other time spans. Researchers believe 95% that time affects the incidence of traffic accidents with a CI range of between 0.34-3.60. This research is in line with research conducted by Saputra (2017), which showed that the highest road traffic accidents occur at 12:00-18:00 as many as 44% of cases, this is because at that time it is a busy or productive time of road traffic in Indonesia [11].

In the city of Palembang at noon to late afternoon, which is at 12.00-18.00 WIB is a time with high busyness because in that time span many people who do travel activities that go to work, go home from work, and go home from school and various other activities. This can cause traffic volume to increase and irregularities on the road resulting in traffic accidents [12]. Accidents can occur because the condition of the rider is tired of activity and the weather is hot enough in the day so that the

concentration of the rider is disturbed. For private workers itself is a type of work with a high level of stress and busyness that affects his behavior in driving such as not concentrating in driving, drowsiness while driving. Meanwhile, for workers whose working hours start from the afternoon or just start going to work tend to drive the vehicle at a high speed because of the demands of work so that they have to arrive at work on time. These things, can result in a high risk of traffic accidents and result in injuries and even death.

g. Relationship between Vehicle Type and Traffic Accident Incident

The majority of victims who experienced traffic accidents with two-wheeled vehicles as many as 389 people (94.0%). This indicates that the mobilization of two-wheeled vehicles is more than other types of vehicles. This is also supported by data from the Central Statistics Agency (BPS) which states that the majority of motor vehicles in Indonesia are motorcycles. Data on the development of the number of motorcycles in Indonesia until 2019 was recorded at 112,771,136 units. The proportion of motorcycles is much larger compared to other types of vehicles which is 81.78%. Meanwhile, data from the Central Statistics Agency (BPS) of South Sumatra in Palembang City in 2019 related to the growth rate of motor vehicles, namely motorcycles recorded as many as 384,449 units of vehicles (Central Statistics Agency, 2021). It is also in line with carina research in 2017 stating that the type of vehicle that is most involved is motorcycles. This is not uncommon because this two-wheeled vehicle has a relatively low level of safety life and the possibility of traffic accidents that occur is greater than other vehicle drivers. Aside from the level of vehicle safety this of course is also influenced by various other factors [13].

The results of the Chi Square Test statistical analysis showed P-value = 1,000 (P-value >0.05), so it can be concluded that there is no significant relationship between vehicle types and traffic accidents in palembang city. This is because this type of vehicle has an influence but is not significant on the

incidence of traffic accidents. A person who uses a type of two-wheeled vehicle or four-wheeled vehicle or more has the same chance of having a traffic accident with the risk of injury be it minor or severe injuries even the most fatal conditions. However, based on the prevalence ratio of 1.02 this shows that 2-wheeled vehicles are at 1.02 times greater risk of causing death from traffic accidents compared to ≥4-wheeled vehicles. Researchers believe 95% that the type of vehicle affects the incidence of traffic accidents with a CI range of between 0.26 - 4.04. This study is in line with research conducted by Setiawan (2021) with statistical test results obtained P-value = 1,000 (p >0.05) which means that there is no relationship between vehicle types and traffic accident events [14].

h. Relationship between Collision Type and Traffic Accident Event

The results of the Chi Square Test statistical analysis showed P-value = 0.012 (P- value <0.05), so it can be concluded that there is a significant relationship between the type of collision and the incidence of traffic accidents in the city of Palembang. The prevalence ratio of 11,097 indicates that motorists who experience an out-of-control hit have an 11,097 times greater risk of causing death compared to other types of hit. This research is in line with research conducted by Rahmayanti (2014) which states that the type of accident based on the type of collision has a significant relationship to the severity of accident victims with traffic accident events [15].This study is also in line with other studies that state that motorists who experience a hit lose control or other types of hit, have a greater risk of death compared to motorists who experience rear-end hits [16].

Traffic accidents with the type of hit out of control most occurred in men which reached 83.0% compared to the female sex. This is because gender affects driving behavior. Judging from the emotional level of men are more unstable than women and tend to drive vehicles at high speeds so that it can affect balance in driving their vehicles and lose control while women will be more careful in driving their vehicles. Traffic accidents with the type of out of control hit most occurred in the private worker group with a percentage of 52.4%. This shows that private workers groups often have traffic accidents with the type of hit out of control. If it is associated with the incidence of accidents, it can be seen that the out of control hit that occurred in the out of control group is caused because the type of private work is a job with high busyness that affects its concentration when driving a motor vehicle both when leaving for work and when returning from work.

i. Accident Prone Location (Blackspot)

Based on the analysis of traffic accident data, the value of accident equivalent numbers and upper control limit values in ten arterial roads of Palembang city in 2020 found that there are 5 road segments with the number of AEK > Upper Control Limit values namely Jalan Ki.Marogan, Jalan Colonel H.Burlian, Jalan Jenderal Sudirman, Jalan Alamsyah Ratu Prawiranegara, Jalan Mayjend.Y.Singadekane. From these results it can be seen that Ki Marogan Road is among the roads with the highest fatality rate compared to the other four roads. Based on its function, Kimarogan road is included in the category of primary arterial roads where the road is at an average high speed with a plan speed of at least 60 km per hour so that it can cause a high risk of traffic accidents.

Jalan Ki Marogan in Palembang City, part of the road area including commercial areas with market activities beside the road so as to make activities on the road become crowded by people who

work, shop, find services and others. So that it causes the flow of traffic is crowded and can trigger traffic accidents. In addition, on Ki Marogan Road there are some roads that are quiet vehicles so that it allows motorists to spur vehicle speeds beyond normal limits and topography of the region including ramps so as to increase the risk of traffic accidents with a high level of fatality. Therefore, there needs to be an effort to minimize the level of traffic accidents from relevant stakeholders starting from locations that require priority handling by conducting a review of the area identified as the highest accident point.

Conclusions And Suggestions

Conclusions in this study show that there is a relationship between the location of the incident (P-value = 0.001), and the type of collision (P-value = 0.003) with the occurrence of traffic accidents in the city of Palembang. As for the age variable (P-value = 0.547), Gender (P-value = 0.967), employment status (P-value = 0.607), driver's license ownership (P-value = 0.052), the time of occurrence (P-value = 0.301), the type of vehicle (P-value = 1,000) did not have a significant association to the occurrence of traffic accidents in the city of Palembang. Based on the prevalence ratio value of variables that are at risk of causing traffic accidents, namely driver's license ownership, type of collision, employment status, time of occurrence, and vehicle type. While the variables that are not at risk are age, location of occurrence, and gender. Locations prone to traffic accidents (blackspot) on the arterial road of Palembang city are Jalan Ki.Marogan, Jalan Colonel H.Burlian, Jalan Jenderal Sudirman, Jalan Alamsyah Ratu Prawiranegara, Jalan Mayjend.Y.Singadekane. It is hoped that this research can be a foundation for related parties in efforts to minimize the incidence of traffic accidents based on risk factors based on accident characteristics. Based on the characteristics of accidents that occur, the need for legal affirmation from relevant stakeholders to every motorist or other road user to follow every traffic regulation in order to create safety in driving. In addition, the need for preparedness in surveillance and security activities in crowded vehicle locations at productive times, locations that require priority handling with attention to engineering aspects and special attention to two-wheeled vehicles because it is a type of vehicle that is often involved. Meanwhile, for road users, motorists must always ensure their body condition is healthy and driving in a conscious state to stay concentrated while driving the vehicle so as to avoid traffic accidents and the importance of complying with every traffic regulation that has been set.

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