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Analysis of Factors Related to Traffic Accidents of Adolescents in SMK Taman Siswa Mojokerto



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Abstract

The magnitude of the number of accidents by motorbikes affects the number of fatalities in Indonesia. Traffic accidents recently occur frequently and cause many losses. The magnitude of the number of accidents by motorbikes also affects the number of fatalities in Indonesia. Traffic accidents can occur due to human factors, vehicle factors, and environmental factors that have a major influence on traffic accidents. This study aimed to analyze the factors related to traffic accidents in adolescents. The design used analytical descriptive research design. The population in this study were all class XI students majoring in the automotive department of SMK Taman Siswa Mojokerto. The sample of 146 people was obtained by total sampling. The variables were factors related to traffic accidents in adolescents. The data were collected using primary data from respondents. After the data was collected, the data was processed and continued with descriptive statistical tests with the help of SPSS version 16.0. In this study, the human factor included the gender of the respondents, mostly male (95.2%), and most of the respondents were 14-16 years old or in the middle adolescent category (90.4%), most of the vehicle factors were complete (61%), and environmental factors (6.4%). This was due to the lack of youth concern for driving safety on the highway. Providing information to adolescents on the causes of accidents can be done to be more vigilant and careful when driving on the highway to minimize the occurrence of accidents

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INTRODUCTION

Traffic accidents recently happened very often and caused many losses. The result of the traffic accident itself was in the form of damage to public facilities and the emergence of victims so that the victim suffered minor injuries, moderate injuries, serious injuries, and even death. Traffic accidents can occur as a result of human factors, one of the most frequent causes of accidents is from humans themselves, for example, the driver loses concentration, fatigue, and drowsiness, the influence of alcohol and drugs, speed exceeds the limit, or reckless, motorized vehicle condition not good and the driver does not understand about traffic rules and motorbike drivers without using standard driving, for example not wearing a helmet, turning off the lights, not obeying traffic rules (Margie Peden et al., 2016).

The fact is that current high school / vocational high school students can drive motorbikes, especially since their children's physical development is currently quite good. However, from a psychological perspective, they are still in the process of searching for their identity. If it is easily provoked by negative things, it is feared that it will trigger SMA / SMK students to ignore the rules and values in society. Lately, it is commonly found that for SMA / SMK students to drove their motorbikes recklessly, not wearing helmets, not carrying complete documents. Driving, and even one motorcycle was ridden by more than two people.

According to data from the World Health Organization, traffic accidents are the main killer of young people aged 10-24 years. The world health organization in its Report on Road Traffic Injury Prevention, explains that every year around the world around 1.2 million people die from traffic accidents and 50 million others are injured. (Margie Peden, R. S., David Sleet, D. M., Adnan A. Hyder, E. J., & Mathers, 2016). In the Global Status Report on Road Safety, it is stated that every year, worldwide, more than 1.25 million victims die from traffic accidents, and 50 million people are seriously injured. Of this number, 90% occur in developing countries where the number of vehicles is 54% of the number of vehicles registered in the world (World Health Organization, 2018). In developing countries, traffic accidents are among the top five causes of death in the world. In Indonesia, the cause of injury due to motorcycle accidents is in the

second rank, showing the highest proportion, namely 67.4% (34,904 people) in the 15-24 year age group, the education level of SMA / MA / SMK is 63.9%, living in urban areas 42.8% (Basic Health Research, 2013).

According to the results of Riskesdas in 2018, the number of accidents in East Java province has increased from 2013 (8.2%) to (9.2%) in 2018 (Basic Health Research, 2018). In 2014, it was known that 550 incidents caused 797 people to become victims, 134 of them died and 660 survivors, 4 of whom were seriously injured and 656 of them had minor injuries. Whereas in 2015 it was known that the number of accidents was 739 traffic accidents that caused 1069 people to become victims, 137 of them died and 932 survivors, 26 of whom had serious injuries and 906 of them had minor injuries, (Mojokerto Police, 2016). In Mojokerto Regency for the period January-November 2017, there were 755 accidents (Polres Mojokerto, 2017).

Based on the results of the preliminary study at the Mojokerto Police, the number of accidents for the January 2019-October 2019 period, 774 accidents that caused 1,030 people to become victims, 124 of whom died, 25 people were seriously injured, and 881 of them suffered minor injuries. (Polres Mojokerto, 2019). The magnitude of the number of accidents by motorbikes also affects the number of victimssoul in Indonesia. During 2013, the number of accident victims who died was 26,416 people, meanwhile in 2014 the number of victims who died increased to 28,297 people (Dephub, 2015). Data on the number of traffic accidents in East Java, according to victims, in 2011 were 22,103 cases, this number increased in 2012 to 24,521 cases.

The accident cases were also offset by the number of minor injured victims in 2011 as many as 25,108 cases. As explained by Korlantas 2017 which states that the factors causing accidents can be divided into 3, namely human factors, vehicle factors, physical environmental factors. Factors that can cause an accident are from humans, machines/vehicles, roads, and the environment. Human factors are influenced by drivers, passengers, road use, vehicle factors are influenced by non-motorized vehicles, motorized vehicles. The road factor is influenced by the goodness of the road, road facilities, and environmental factors are influenced by weather and geography.

Human factors include vehicle drivers who are not careful in controlling their vehicles, drivers who are careless in driving their vehicles, and the physical health of drivers who are less than optimal in driving on the highway resulting in accidents as much as (79.91%), vehicle factors include vehicle slippage due to bare tires, failed brakes, and damage to other vehicle components resulting in accidents (12.66%). Environmental factors include slippery roads due to standing water after rain and the number of schools and factory activities at certain hours that cause congestion and large numbers of workers, school children crossing carelessly, bumpy roads, roads with holes in the street lights that go out causing as many accidents (7, 43%). Of the various causes that can cause traffic accidents, the causal factors are dominated by driver negligence such as driving at high speed, motorbike conditions that are not up to standard, riding against the current, turning without turning on the turn signal, carrying more than one person (Jasmen Manurung, Mido Ester Sitorus, 2019)

The convenience offered by the motorbike makes some high school students able to drive it. They even use the motorbike as a means of transportation to go to school. Most high school students are children under 17 years of age who

have not received a permit to drive a motorized vehicle. Given the many problems that arise, based on the above theory the role of nurses is needed, namely as an educator to improve public knowledge about the importance of maintaining driving safety and avoiding the factors that can cause accidents.

Based on the above phenomenon, the researcher is interested in researching the "Factors that cause accidents in SMK Taman Siswa Mojokerto"

METHOD

The research design used descriptive analysis design. The research variables were factors related to traffic accidents in adolescents such as human factors, vehicle factors and environmental factors. The population was all students of class XI majoring in Automotive Engineering at SMK Taman Siswa Mojokerto with a total of 146 respondents. The sample was 146 students taken by total sampling technique. The data was collected using a questionnaire consisting of 20 questions sheet instrument factors related to traffic accidents of Adolescents using Google Form media, data collection was carried out for 2 weeks then analyzed by frequency distribution.

RESULT

Table 1: Characteristics of respondents based on Human Factors

Human Factors	Criteria	F	%
Age	1-13 years	0	0
	4-16 years	132	90.4
	7-20 years	14	9.5
Gender	Male	139	95.2
	Female	7	4.8
Behavior	Positive	67	45.8
	Negative	79	54.2
Total		146	100

Based on table 1, it is obtained data that most of the students at SMK Taman Siswa Mojokerto class XI majoring in Automotive are aged 14-16 years or are included in the Middle Teen category as many as 132 respondents

(90.4%), based on gender shows that almost all respondents are male as many as 139 respondents (95.2%), and based on the negative behavior data obtained were 79 respondents (54.2%).

Table 2: Characteristics of respondents based on vehicle factors (vehicle equipment, vehicle lighting and use of vehicles in accordance with the provisions)

Vehicle Factors	F	(%)
Complete	89	61
Incomplete	57	39

Total	146	100
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Based on table 2 above, shows that 89 respondents (61%) have a complete vehicle condition

Table 3: Characteristics of respondents based on environmental factors (road conditions)

Environmental Factors	F	(%)
Good	129	88.4
Bad	17	11.6
Total	146	100

Based on table 3 above, the results obtained are 129 respondents (88.4%) indicating a good environment (road conditions).

DISCUSSION

1. Traffic accidents based on human factors

The results of the study show that the data in table 1 shows that almost all of the respondents are male as many as 139 respondents (95.2%) and most of them are middle-aged 132 (90.4%) In a study conducted by Dina Lusiana, et al (2018) stated that Men from a young age are more likely to experience traffic accidents on the road than women because men are more likely to disobey existing regulations, while women are more concerned with existing regulations.(Setyowati, D. L., Firdaus, A. R., Rohmah, N., Masyarakat, F. K., & Mulawarman, 2018). An accident is an event that can happen to anyone, both male and female because the accident cannot be predicted on who, when, and where it will happen. According to researchers, the frequency of male drivers using vehicles more often than women is due to the higher level of male mobility.

This can be proven in a study conducted by DeaPutrisna, et al. In the city of Kupang to 84 respondents, the results showed that (63.1%) were 16 years old. (Putrisna, D., Gigy, D., Setyobudi, A., & Tira, 2019). Age is one of the risk factors associated with accidents, but age is not an independent risk factor that causes accidents. According to researchers the increasing age of a person the more maturity in behavior.

The results showed that data in table 1 obtained data with negative behavior as many as 79 respondents (54.5%). This is supported by Akhmad's research in 2015 that there is a relationship between driving behavior and traffic accidents. Careless driving behavior can adversely affect traffic accidents. The risky behavior that is often carried out by motorists not only endangers safety for themselves but also other motorists and other road users.

Based on the results of research conducted by Jasmen Manurung, it was found that more accidents occurred as a result of human behavior. The research was conducted on online motorcycle taxi drivers as many as 100 respondents (61.0%).(Jasmen Manurung, Mido Ester Sitorus, 2019). Human factors can be the main cause of accidents due to age that is still too young, gender, and behavior that is not positive. Apart from being an obstacle in efforts to improve road safety culture, driving safety must be realized starting from the behavior of an individual and being supported by every other road user.

2. Causes of accidents based on vehicle factors

In this study according to table 2, complete vehicle factor data were obtained from as many as 89 respondents (61%). This is evidenced in research conducted by Rakhmani which was conducted on 315 respondents, the results obtained were 20.6% who had accidents caused by vehicle factors (Setyowati, D. L., Firdaus, A. R., Rohmah, N., Masyarakat, F. K., & Mulawarman, 2018). According to researchers, motorized vehicles as a result of the production of a factory have been designed with a safety factor value to ensure safety for the driver, even though the vehicle should still be maintained in good condition in order to provide security for the driver. A complete vehicle is a vehicle that has the appropriate vehicle equipment, such as mirrors, the condition of the vehicle which is always checked periodically, and an unmodified vehicle that does not comply with the rules.

3. Causes of accidents based on environmental factors

Based on table 3 above, the results obtained are 129 respondents (88.4%) indicating a good

environment (road conditions). Environmental factors also contribute to a large number of accidents so that this should be used as a reference to minimize the occurrence of traffic accidents because we cannot predict how the environment around us is, both road and weather conditions. Damaged road conditions can cause traffic accidents besides unstable weather factors can also cause accidents, for example when the weather is sunny the driver of the vehicle tends to be more negligent than the rainy weather, when it is raining the vehicle driver tends to be more careful while the weather is sunny and the surroundings are not too crowded, drivers tend to drive their vehicle at high speed and ignore the surrounding signs. Based on the results of the analysis, which was carried out at the RTMC Ditlantas Polda Jatim which is included in the load factor as a cause of traffic accidents, is the environment and conditions of damaged roads, holes, geographical slopes, bends, inclines, and derivatives of dangerous roads and street lighting (Umi Enggarsasi, 2017). According to the researcher, although the percentage is very small, environmental factors also contribute to the number of accidents, so this should still be used as a reference to minimize the occurrence of accidents because we cannot predict how the environment around us will be, whether road or weather conditions. Damaged road conditions can cause traffic accidents, besides unstable weather factors can also cause accidents, for example when the weather is sunny the vehicle driver tends to be more negligent than rainy weather, when it rains the vehicle driver tends to be more careful while when the weather is sunny and the surrounding conditions are not too crowded, the driver tends to drive his vehicle at high speed and ignore the surrounding signs.

CONCLUSION

Several factors can influence the incidence of accidents, namely: human factors, vehicle factors, and environmental factors. From the results of research conducted at SMK Taman Siswa Mojokerto in May-August 2020, the factors causing the highest accidents were human factors with negative behavior, environmental factors based on road conditions, lighting and light and vehicle factors that caused traffic accidents.

SUGGESTION

It is expected that health workers are able to provide health promotion to individuals who have risk factors for experiencing accidents in order to carry out risk factor management early on and provide appropriate education to overcome the risk of accidents.

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